







# THE FAUNA OF BRITISH INDIA,

INCLUDING

## CEYLON AND BURMA.

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### **RHYNCHOTA.—Vol. VI.**

#### **HOMOPTERA: APPENDIX.**

BY

**W. L. DISTANT**

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## A P P E N D I X.

### HOMOPTERA.

#### Family CICADIDÆ. (Vol. III, p. 55.)

In Volume III, 149 species of Cicadidæ were enumerated and described as found in this Fauna. I am now able to add 23 more species, bringing up the total to 172.

#### Genus **PLATYPLEURA.** (Vol. III, p. 58.)

3136. **Platypleura atkinsoni**, *Dist. A. M. N. H.* (Six, p. 181 (1912).

♀. Body above cinnamomeous brown; vertex narrowly at inner margins of eyes, and narrow anterior margins of vertex and front, picous or black; ocelli narrowly margined with black; pronotum with the lateral and posterior margins and the anterior



Fig. 1.—*Platypleura atkinsoni*.

marginal area ochraceous, and with a more or less distinct picous central fascia; mesonotum with two obconical spots on anterior margin and a sublateral line on each side black, the basal cruciform elevation ochraceous; posterior abdominal segmental margins distinctly paler; body beneath and legs cinnamomeous brown, the sternum and legs distinctly pilose; head beneath with a transverse black fascia between the eyes crossing anterior margin of face; tegmina and wings hyaline, the venation ochraceous; tegmina with the costal membrane and extreme base ochraceous, the whole tegminal area somewhat sparsely speckled with small but distinct black spots, those on the apical marginal area in two



series arranged in pairs, the outermost smaller; face with the margins a little convex, the lateral transverse ridges strongly pronounced, the central longitudinal sulcation broad; head (including eyes) a little wider than base of mesonotum; pronotal margins subtruncate, not medially angulate; rostrum distinctly passing posterior coxæ.

Length excl. tegm., ♀, 15½; exp. tegm. 49 millim.

*Hab.* Tenasserim (*Atkinson Coll., Brit. Mus.*).

By the subtruncate pronotal margins allied to *P. cervina*, Walk., by the finely spotted tegmina having affinity with the S. African *P. longula*, Dist.

**PLATYPLEURA BADIA.** (Vol. III, p. 70.)

*Platypleura badia*, *Dist. A. M. N. II.* (8) xii, p. 557 (1913).

At the time of the description of this species and until the above date, I only knew *P. badia* by the female form from Tenasserim. The British Museum has recently received example from Burma, which I now describe:—

♂. Opercula short, broad, and overlapping inwardly, not passing the base of abdomen, obtusely rounded laterally and apically; rostrum reaching base of abdomen; body beneath somewhat longly pilose.

Length excl. tegm., ♂, 16; exp. tegm. 52 millim.

Add: *Hab.* Lower Burma; Toungoo Distr. (*G. C. Clarence*).

**Genus RIHANA.** (Vol. III, p. 78.)

3137. *Rihana seminiger*, *Dist. Entomologist*, 1909, p. 208.

♂. Body above black; eyes, posterior margin of pronotum, the narrow margins to two central obconical spots on mesonotum, the base of the cruciform elevation and the lateral margins of the metanotum, dull, obscure olivaceous; a large transverse lateral spot on each side of the second abdominal segment and a round spot on each side of base of anal segment cretaceous-white; head beneath, sternum and opercula thickly greyish pilose; face with the transverse ridges black and with a central longitudinal ochraceous fascia which is centrally attenuated and also longitudinally continued on clypeus; opercula with their inner margins (broadly) and their outer and posterior margins (narrowly) black; abdomen beneath black, the abdominal segmental margins obscure olivaceous, a spot on each side of the second abdominal segment and one on each side of the sixth segment cretaceous-white; legs black, apices of femora and bases of tibiæ more or less ochraceous; tegmina and wings hyaline, in some lights with a pale bluish reflection, the venation either piceous or brownish-olivaceous, the extreme base virescent; length of head more than half the breadth of space between eyes; face broadly, moderately

prominent; opercula broad, not extending beyond base of abdomen, their posterior margins broadly rounded, their inner margins a little overlapping, their lateral margins nearly straight; rostrum slightly passing the intermediate coxae, ochraceous, centrally, longitudinally and apically black.

Length excl. tegm., ♂, 30; exp. tegm. 97 millim.

*Hab.* India; Nilgiri Hills (*H. L. Andrews, Brit. Mus.*).

Allied to *R. atra*, Dist., from the Philippines.

Genus **CRYPTOTYMPANA.** (Vol. III, p. 80.)

3138. *Cryptotympana mandarina*, *Dist. Mon. Orient. Cicad.* p. 86, t. xi, f. 7, *a, b* (1891).

*Fidicina operculata, Curren (M.S. ?)*; *Walk. List Hom.* i, p. 90 (1850).

♂. Body above black; eyes fuscous; anal segment of the abdomen with an ochraceous spot on each side; body beneath and legs black; a spot at anterior margin of face, two marginal spots between face and eyes, lateral margins of face, femoral streaks, posterior tibiae (excluding bases and apices), margins of opercula, segmental margins (excluding disk), and apex of terminal segments, dark ochraceous; tegmina and wings hyaline, the venation fuscous; tegmina with the costal membrane castaneous, its extreme costal edge and the post-costal area blackish, basal cell black, about basal third of tegmina and the subcostal area to apex pale castaneous; wings with about basal half irregularly very dark castaneous. The opercula extend to about half the length of the abdomen, slightly overlap at basal margin, somewhat concavely and obliquely sinuate at outer margins, and inwardly beyond base widely divergent to apices, which are narrowly and obtusely convex.

Length excl. tegm., ♂, 40; exp. tegm. 115 millim.

*Hab.* Tenasserim (*Col. Ringham*).—Tonkin (*Mus. Paris*); China; Hainan.

**CRYPTOTYMPANA EXALBIDA.** (Vol. III, p. 86.)

(*Cryptotympana exalbida, Dist. A. M. N. H.* (8) xii, p. 486 (1913).

My previous knowledge of this species was confined to eight female specimens derived from Sikkim and the Nilgiri Hills. Mr. F. E. Green has since presented the British Museum with a male specimen from Ceylon, which enables the characters of that sex to be described.

♂. Opercula ochraceous, a little longer than broad, centrally moderately overlapping, their apices extending to posterior margin of the second abdominal segment, outer margins nearly straight, apices narrowed and obtusely rounded, inner margins oblique.

Length excl. tegm. 38; exp. tegm. 106 millim.

Add: *Hab.* Ceylon; Oduchuddan (*Green*).

Genus **DUNDUBIA**. (Vol. III, p. 94.)

3139. *Dundubia helena*, *Dist. A. M. N. H.* (8) ix, p. 641 (1912).

Body and legs brownish ochraceous; apical spot to front of head, lateral and posterior margins of pronotum, posterior margin of metanotum, tympanal coverings, narrow posterior segmental margins to abdomen above, opercula, and abdomen beneath, pale ochraceous; tegmina and wings hyaline, the venation brownish or pale ochraceous; head about as long as pronotum, the front large and convex, about twice as broad at its base as the length of the anterior margins of the lobes of vertex; lateral margins of the pronotum distinctly toothed; abdomen very little longer than space between apex of head and base of cruciform elevation; opercula in male long, extending to base of sixth abdominal segment, strongly concavely narrowed on each side near base and thence convexly amplified; rostrum scarcely reaching the posterior coxæ; second apical area of the tegmina little more than half the length of the first.

Length excl. tegm., ♂, 35; exp. tegm. 88 millim.

*Hab.* N. India; Dehra Dun (*Brit. Mus.*).

Allied to *D. mannifera*, Linn., but differing in the shape of the opercula, which are strongly concavely narrowed on each side near base; the second apical area to the tegmina is very short, distinctly shorter than the corresponding area in *D. mannifera*.

Genus **TANNA**.

*Tanna*, *Dist. A. M. N. H.* (7) xv, p. 61 (1905).

Type, *T. japonensis*, Dist., from Japan.

*Distribution.* India, Malay Archipelago, and Japan.

Closely allied to *Leptopsaltria* (vol. iii, p. 89), from which it differs by having a lateral tubercle only on the second and not on the third ventral segment, in other respects resembling the genus *Pomponia* (vol. iii, p. 111).

Head (including eyes) narrower than base of mesonotum and about as long as space between eyes; lateral margins of pronotum angularly sinuate, but not prominently toothed; abdomen much longer than space between apex of head and base of cruciform elevation: tympana covered; opercula small, not or scarcely extending beyond base of abdomen; rostrum reaching the posterior coxæ; tegmina and wings hyaline.

3140. *Tanna bhutanensis*, *Dist. A. M. N. H.* (8) ix, p. 182 (1912).

Head, pronotum, and mesonotum more or less greenish ochraceous; anterior and lateral margins of front, an irregular central fascia to vertex (enclosing the ocelli), anterior inner margins of eyes, a curved fasciate line about middle of lateral margins and the anterior angles, anterior margin of pronotum,

two central fasciate lines widened anteriorly and posteriorly, and the outer fissures, mesonotum with a short central line almost united with an elongate sagittiform spot on basal area, two irregular slightly curved discal fasciæ scarcely extending behind middle, a broad sublateral fascia on each side doubly united to the lateral margin posteriorly, and a rounded spot at each anterior angle of the cruciform elevation, black; abdomen brownish ochraceous, the segmental incisures a little darker, apex of abdomen beneath black; body beneath and legs brownish ochraceous, the face and opercula distinctly paler; tegmina and wings hyaline, the venation brownish; tegmina with the costal membrane, spots at the apices of the ulnar areas, and smaller spots near the apices

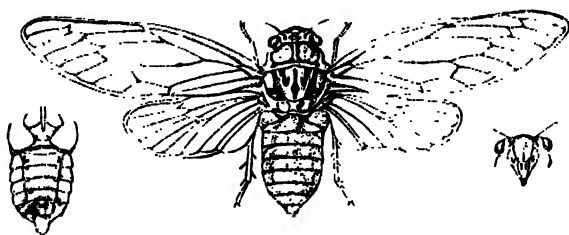


Fig. 2. — *Tanna bhutanicus*.

of the veins of apical areas, fuscous brown; second ventral segment in male alone provided with lateral tubercles; opercula in male short, not passing posterior margin of first ventral segment, widely separated at their inner margins, which are roundly obtusely angulate, their posterior margins rounded, their lateral margins almost straight: rostrum slightly passing the posterior coxæ.

Length excl. tegm., ♂, 24; exp. tegm. 72 millim.

*Hab.* Bhutan (*Brit. Mus.*).

The only species of this genus at present recorded from British India.

#### Genus **PLATYLOMIA**. (Vol. III, p. 100.)

3141. *Platylomia brevis*, *Dist. A. M. N. II.* (8) ix, p. 182 (1912).

Closely allied in colour and markings to *P. saturata*, Walk. (vol iii, p. 105), but differing by the short and narrower opercula, which do not reach the penultimate abdominal segment as in Walker's species, but scarcely pass the posterior margin of the third segment, their apices, as in *P. saturata*, are narrowed, angulated and slightly directed outwardly.

Length excl. tegm. 40; exp. tegm. 103 millim.

*Hab.* "N. India" (*Brit. Mus.*).

3142. *Platylomia insignis*, *Dist. A. M. N. H.* (8) ix, p. 183 (1912).

In colour and markings scarcely separable from *P. saturata*, Walk., but differing altogether in the structure of the opercula, which reach the penultimate abdominal segment, but have not their apices narrowed and angulated as in Walker's species, but somewhat broadly rounded; they are narrowed at the base and

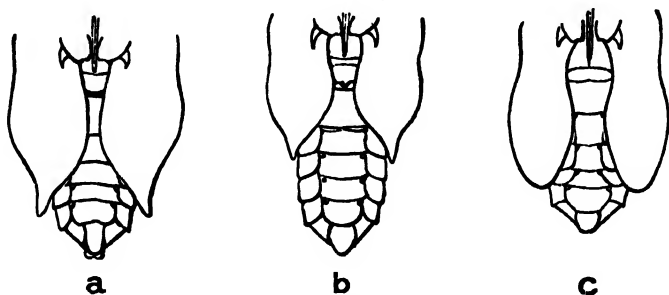


Fig. 3.—a. *Platylomia saturata*.  
b. *Platylomia brevis*.  
c. *Platylomia insignis*.

strongly sinuate before the middle of the lateral margins; the abdomen is distinctly shorter and broader, and the tegmina less arched on costal margin.

Length excl. tegm. 36; exp. tegm. 109 millim.

*Hab.* Bhutan (*Brit. Mus.*).

Genus **MEIMUNA**. (Vol. III, p. 107.)3143. *Meimuna casandra*, *Dist. A. M. N. H.* (8) ix, p. 642 (1912).

Head black, with the following ochraceous markings—a spot at apex of front and lateral striations on same, lateral margins of vertex, inner margins of eyes, and suffusions at area of ocelli; pronotum ochraceous, two central fasciæ, an elongate spot on each side of disk, the fissures, and lateral posterior margins, black; mesonotum ochraceous, with five longitudinal black fasciæ, the three central shortest and connected posteriorly, the lateral fasciæ longest and broadest and containing a basal ochraceous spot, a large transverse black spot in front of the cruciform elevation; abdomen above black, the posterior segmental margins pale ochraceous, two lateral brownish spots before middle; tympanal coverings very pale ochraceous; body beneath and legs ochraceous; transverse striations and central sulcation (excluding base) on face, a transverse spot between face and eyes, posterior areas of cheeks, lateral areas of clypeus, and central spots on the last two abdominal segments, black; tegmina and wings hyaline, the venation fuscous, tegmina with the basal veins to the second

and third apical areas lightly infusate; head (including eyes) about as broad as base of mesonotum, area of the ocelli distinctly sulcate centrally; lateral margins of the pronotum distinctly, acutely toothed before middle; rostrum reaching the posterior coxæ; opercula reaching the third abdominal segment, their outer margins subparallel, inwardly widest but not meeting near posterior coxæ, inner margins oblique, apices narrowly rounded.

Length excl. tegm., ♂, 28; exp. tegm. 72 millim.

*Hab.* N. India; near Dehra Dun (*Brit. Mus.*).

In superficial appearance strongly resembling *M. opalifera*, Walk., from Corea and Japan, but differing very much in the shape of the opercula in the male, these being narrowed and angulated at apices in Walker's species.

Genus **POMPONIA.** (Vol. III, p. 111.)

3144. *Pomponia picta*, Walk. (Dundubia), *J. Linn. Soc., Zool.* x, p. 90 (1867); *Dist. (Pomponia) Mon. Orient. Cicad.* p. 71, t. vii, f. 11a, b (1890).

Body pale castaneous; a central fascia to front, two large curved fasciæ to vertex (commencing at base on each side of ocelli and more or less continued to anterior lateral angles), a large central angulated fascia (containing two black sinuated lines) and the posterior margin to pronotum, pale greenish; mesonotum with the outer margins of two obscure obconical spots, and the basal cruciform elevation, pale greenish or ochraceous; abdomen above with a lateral segmental series of dark longitudinal spots; face castaneous, two central spots and transverse lateral lines pale greenish; clypeus with a basal spot and central carination pale greenish; opercula pale greenish; legs green, more or less broadly annulated with black; tegmina hyaline, costal membrane green, the venation black with long greenish annulations, the apices of the ulnar veins, spots on and near the apices of the apical veins, and smaller spots on basal area, fuscous brown; wings hyaline, the venation fuscous; opercula inwardly and outwardly oblique, their apices broadly convex, inwardly nearly meeting.

Length excl. tegm., ♂, 28-37; exp. tegm. 70-85 millim.

*Hab.* Ceylon; Pattipola (*Bainbrigge-Fletcher*).—Sumatra, Java, Borneo.

This species should be placed after *P. lactea*, Dist. (vol. iii, p. 112).

Genus **ONCOTYMPANA.** (Vol. III, p. 117.)

3145. *Oncotympana mahoni*, Dist. *A. M. N. H.* (7) xvii, p. 183 (1906).

♂. Head, pronotum, and mesonotum olivaceous green; head with very broad lateral areas to front and area of the ocelli (from which an oblique line proceeds on each side to margins of vertex)

black: pronotum with a very broad central angulated fascia, followed by a curved discal spot, an irregular oblique fascia from behind eyes, the fissures, and a transverse spot on lateral margins, black; mesonotum with two central obconical spots, followed by a large central lanceolate spot, a broad irregular fascia near each lateral area, two rounded spots in front of cruciform elevation, and a large central spot to same, black; abdomen above olivaceous green, thickly covered with alternately black and ochraceous spots, the anal segment cretaceous white; tympanal coverings piceous; head beneath, sternum, legs, and opercula dull greenish ochraceous; lateral carinations to face, a spot on each side of clypeus, apex of rostrum, narrow basal and apical suffusions to femora and tibiae, and the abdomen beneath, piceous or black, the latter with the segmental margins and a lateral spot on each side near base olivaceous green; tegmina and wings hyaline with a bronzy tint, the venation testaceous or fuscous; tegmina with the costal membrane greenish ochraceous, a round fuscous spot on the transverse veins at bases of second, third, fifth, seventh, and eighth apical areas, and a fuscous spot at apices of longitudinal veins to apical areas; wings with the outer margin and a basal streak to anal area fuscous; opercula transverse, their inner margins black and not meeting, their posterior margins broadly rounded; head (including eyes) narrower than base of mesonotum.

Length excl. tegm., ♂ and ♀, 20; exp. tegm., ♂ 77, ♀ 83 millim.

*Hab.* N.W. India; Masuri (*Mahoni*).

The late Mr. Mackinnon, who sent this species, asked me to name it after his chief collector Mahoni, who captured the specimens.

Allied to *O. melanoptera*, Dist., from which it may be at once separated, apart from other characters, by its much narrower head.

Genus **MATA**. (Vol. III, p. 119.)

3146. **Mata rama**, *Dist. A. M. N. H.* (8) ix, p. 459 (1912).

Head, pronotum, and mesonotum greenish ochraceous; lateral margins of front, two central linear fasciæ to vertex (almost enclosing the ocelli), two spots on each lateral margin of vertex and inner margins of eyes, pronotum with two central longitudinal fasciæ, united anteriorly and posteriorly, and an inner lateral marginal line, black; mesonotum with two central obconical spots denoted by their dark margins, a central sagittiform spot, a more or less obscure and subobsolete sublateral fascia, and a rounded spot before each anterior angle of the cruciform basal elevation, black; abdomen above more or less testaceous brown; head beneath, sternum, and legs virescent; abdomen beneath testaceous brown; operculi in male virescent, their posterior and lateral margins piceous; tegmina and wings hyaline, the first with the costal membrane greenish ochraceous, stigmatal spot

black, apices of the first and second radial areas infuscated; venation of tegmina and wings more or less piceous; pronotum with the lateral margins very slightly convex, sinuate before the posterior lateral angles, which are moderately, lobately produced; tympanal coverings piceous, their outer margins a little sinuate, the posterior angles alone projecting beyond the lateral margins of the abdomen; opercula short, transverse, scarcely extending beyond the base of the abdomen, their lateral margins visible from above, their posterior lateral angles rounded, their posterior margins oblique; rostrum reaching the posterior coxae.

Length excl. tegm., ♂ and ♀, 17; exp. tegm., ♂ 55, ♀ 63 millim.

*Hab.* Bhutan (*Brit. Mus.*).

Very distinct from *M. kama*, Dist., the only other described species of the genus; tegmina proportionally shorter and almost unspotted, &c.

(Genus **TERPNOSIA**. (Vol. III, p. 126.)

31-47. *Terpnosia jenkinsi*, *Dist. A. M. N. H.* (8) ix, p. 183 (1912).

Body above brownish ochraceous, somewhat thickly and irregularly marked with black; head with the front transversely blackly striate and with two angulate black spots at base, vertex with the area of the ocelli, broad inner margins to eyes, and irregular discal spots black; pronotum with the margins of an irregular central fascia, the fissures, lateral margins, and some scattered spots black; mesonotum with a large central macular

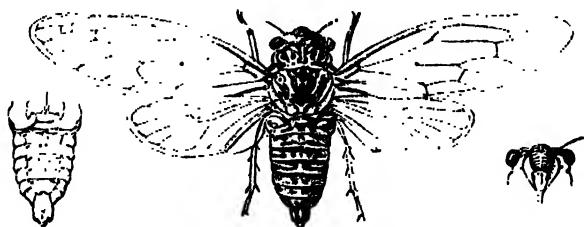


Fig. 4. -*Terpnosia jenkinsi*.

patch, a sublateral fascia and some lateral spots, some smaller spots on anterior margin, and the space between the anterior angles of the basal cruciform elevation, black; abdomen above irregularly and mostly transversely marked with black; body beneath and legs dull pale ochraceous; between face and eyes a black transverse spot, face distinctly blackly striate; apex of rostrum, shadings to anterior and intermediate femora, apices of tibiae and tarsi, black; abdominal segments beneath transversely and maculately shaded with fuscous brown; tegmina and wings



hyaline, the first with the venation shaded here and there with black, two transverse linear spots before apex, the apex of the second ulnar area, and small indistinct spots near the apices of the longitudinal veins to apical areas, black or blackish; tympanal coverings only a little shorter, but considerably narrower, than tympanal orifices; opercula in male not extending beyond base of abdomen, their lateral margins sinuate, their apices transversely rounded; rostrum reaching the posterior coxæ; wings with six apical areas.

Length excl. tegm., ♂, 26; exp. tegm. 72 millim.

*Hab.* W. Bengal; Paresnath (*J. T. Jenkins, Brit. & Ind. Mus.*).

This species, of which I have as yet seen only two specimens, is allied to *P. pascas*, Walk., by the length of the tympanal coverings; it is, however, a smaller and differently marked species. The most distinct, but possibly abnormal, character in the type of *P. jenkinsi* is found in the tegmina, where there is a distinct cell before the second apical area; the relative lengths of this cell and the apical area are not quite similar in the two tegmina.

**3148. *Terpnosia versicolor*, Dist. A. M. N. H. (8) ix, p. 462 (1912).**

♂. Head, pronotum, and mesonotum virescent; lateral striations to front (not meeting anteriorly), area of the ocelli, narrow anterior and posterior margins to pronotum, the fissures and broad lateral marginal areas, the margins of two anterior obconical spots to mesonotum, on each side of which is a broad percurrent longitudinal fascia, and a spot in front of each anterior angle of the cruciform basal elevation, castaneous brown; abdomen above ochraceous, the posterior segmental margins virescent; head beneath, sternum, legs, and opercula virescent; cheeks and tibiae more or less suffused with castaneous brown; abdomen beneath brownish testaceous, disk of anal segment purplish brown; tegmina and wings hyaline, the venation and costal membrane of the former more or less virescent; opercula in male short and transverse, not extending beyond basal segment of abdomen; head deflected anteriorly, front not prominent, its length about equal to breadth between eyes; pronotum distinctly shorter than mesonotum.

Length excl. tegm., ♂, 19; exp. tegm. 55 millim.

*Hab.* Burma; Ruby Mines (*Doherty, Brit. Mus.*).

Allied to *T. collina*, Dist.

**3149. *Terpnosia oberthuri*,<sup>†</sup> Dist. A. M. N. H. (8) ix, p. 462 (1912).**

♂. Closely allied in colour and markings to the preceding species *T. versicolor*, but the tegmina with the transverse veins at the apices of the ulnar areas and the apices of the longitudinal veins to apical areas distinctly infuscated; the opercula much less

truncate and more oblique, and in consequence of this being considerably wider apart than in *T. versicolor*.

Length excl. tegm., ♂, 12; exp. tegm. 55 millim.

*Hab.* Bhutan (Brit. Mus.).

Near *T. pumila*, Dist., a Bornean species.

3150. *Terpnosia crowfooti*, *Dist. A. M. N. II.* (8) x, p. 439 (1912).

Head, pronotum, and mesonotum pale olivaceous green; head with anterior marginal lines to front, lateral margins to vertex, and the area of the ocelli black; pronotum with two central curved longitudinal lines, the outer fissure, a transverse spot near lateral angles, and two small, central, contiguous spots near base black; mesonotum with a central straight longitudinal line, on each side of which is a short inwardly curved line, a curved fasciate line on each lateral area, two spots in front of the basal cruciform elevation, and the anterior angles of the same black; abdomen pale brownish ochraceous, shortly palely pilose, the central area darker, with a series of large segmental spots on each lateral area and smaller spots on lateral margins piceous, apical segment covered with greyish-white pile; head beneath, sternum, legs, and opercula pale greenish ochraceous; tibiæ, tarsi, and rostrum brownish ochraceous; abdomen beneath thickly covered with greyish pile; tegmina and wings hyaline, unspotted, both with the venation and the first with the costal membrane piceous; opercula in ♂ not extending beyond base of abdomen, their lateral and apical margins convex; tympanal coverings less than half the length of tympanal orifices, small and rudimentary.

Length excl. tegm., ♂, 24; exp. tegm. 58 millim.

*Hab.* Badantan, near Darjeeling (*A. R. Crowfoot, Brit. Mus.*).

By the completely unspotted tegmina and the rudimentary tympanal coverings this species is allied to *T. mathava*, Dist. (vol. iii, p. 130), from which it differs by the more elongate tegmina and totally different markings &c.

Genus **CICADATRA**. (Vol. III, p. 132.)

3151. *Cicadatra raja*, *Dist. A. M. N. II.* (7) xvii, p. 181 (1906)

Head and pronotum castaneous; the ocelli sometimes margined with piceous; pronotum with the posterior margin ochraceous or greenish ochraceous, and sometimes with a central longitudinal ochraceous fascia, broadened anteriorly and posteriorly, two small piceous spots at centre of posterior margin; mesonotum brownish ochraceous, with four obconical piceous or castaneous spots, the two central ones short and somewhat wide apart, two spots of the same colour in front of the cruciform elevation (sometimes absent); abdomen above brownish or castaneous, palely pilose, with the segmental margins piceous or darker in

hue; body beneath palely pilose; tegmina and wings hyaline, the first with the venation fuscous, the costal membrane and some of the basal veins virescent, a distinct small piceous spot at apex of upper apical area; wings with the venation, inner broad anal margin (enclosing a small pale spot at apex), and the narrow outer margin of the anal area fuscous; opercula small, obliquely transverse, very thickly palely pilose, not passing base of abdomen or meeting internally.

Length excl. tegm. 18–20; exp. tegm. 44–47 millim.

*Hab.* N.W. India, Aglar Valley, Masuri (*P. W. Mackinnon*).

Allied to *C. sankana*, Dist. (vol. iii, p. 132) from the same district.

3152. *Cicadatra inconspicua*, Dist. *A. M. N. II.* (8) ix, p. 463 (1912).

♂. Head piceous, anterior angles of vertex dull ochraceous; pronotum brownish ochraceous, a central reversed triangular piceous spot with a central ochraceous line, the basal marginal area piceous; mesonotum brownish ochraceous, with two anterior obsolete central obconical spots, on each side of which is a percurrent submarginal piceous fascia, and a large piceous spot before the cruciform basal elevation; abdomen above pale brownish with piceous shadings, the posterior segmental margins pale ochraceous; body beneath and legs ochraceous; tegmina and wings hyaline, the venation, costal membrane, and basal claval streak to the first and anal marginal area of the latter, ochraceous; a small transverse piceous spot above apex of radial area and a similar spot at apex of clavus to tegmina; opercula somewhat long, reaching the posterior margin of the basal abdominal segment, obliquely directed inwardly, their apices thus not very far apart, outwardly moderately convex, a little sinuate on each side near base, their apices subangularly rounded; rostrum reaching the intermediate coxæ.

Length excl. tegm., ♂, 8; exp. tegm. 35 millim.

*Hab.* Brit. India; Mhow (*Brit. Mus.*).

A small species, somewhat intermediate between the preceding species, *C. raja*, Dist., and *C. striata*, Walk. (vol. iii, p. 134), but much smaller than either and to be distinguished by the distinct characters of the opercula.

Genus **PSALMOCHARIAS**, to replace *SENA*. (Vol. III, p. 134.)

*Psalmocharias*, Kirk., n. nom., *Entomologist*, xli, p. 124 (1908).

The name *Sena* being preoccupied, that proposed by Kirkaldy must be substituted for it.

**PSALMOCHARIAS QUERULA.**

*Sena quærule.* (Vol. III, p. 135.)

Specimens of this species were exhibited at a Meeting of the Zoological Society of London (February 1, 1910) by Col. Sir A. H. McMahon, who stated that great swarms of it had visited Quetta, Baluchistan, in 1909. Similar swarms had been known to occur at intervals of about six years. This Cicadid bores a hole in the ground, apparently intended merely to hold the insect during its pupal stage. Each hole is separate and quite open, holds only one pupa, and is bored vertically to a depth varying from 11 inches to 2 feet. In diameter it is about half an inch, but widens slightly at the bottom.

(Genus **GUDABA.** (Vol. III, p. 138.)

3153. *Gudaba maculata*, *Dist. A. M. N. II.* (8) x, p. 439 (1912).

Head, pronotum, and mesonotum ochraceous; head with the apex and two longitudinal fasciæ to front, area of the ocelli, and an oblique fasciæ before each eye, black; pronotum with two central longitudinal fasciæ, a spot behind each eye, and the lateral fissures, black; mesonotum with a central longitudinal line, on each side of which is a short oblique linear fasciæ, a sublateral fasciæ (sometimes much broken), two small spots in front of the cruciform elevation, and the anterior angles of same, black; abdomen brownish ochraceous, in ♂ a small black basal spot and the apical area castaneous, in ♀ a central black spot on the first three segments and a series of small lateral marginal spots; body beneath and legs brownish ochraceous in ♂, the apices of the femora distinctly black, and the apical area of the abdomen piceous or black; in the ♀ the underside of the body and legs is virescent; tegmina and wings hyaline, venation brownish ochraceous or fuscous; tegmina with a sublateral series of marginal fuscous spots placed on the lateral veins to apical areas; head as long as breadth between eyes; pronotum with the lateral margins angulated; abdomen considerably longer than space between head and base of cruciform elevation, second and third ventral segments furnished with a tubercle near each lateral margin, the posterior tubercle very small; tympanal coverings very much shorter and narrower than the tympanal orifices; opercula short, oblique, not passing the base of abdomen; rostrum reaching the posterior coxæ; wings with five apical areas.

Length excl. tegm., ♂ ♀, 13; exp. tegm. 33-34 millim.

*Hab.* ♂, Sikkim (Col. Bingham); ♀, Dehra Dun (N. C. Chatterjee, Brit. Mus.).

Allied to the Burmese species *G. marginata*, Dist., and constituting the first species described from India proper.

Genus **KHIMBYA**. (Vol. III, p. 139.)3154. **Khimbya immsi**, *Dist. A. M. N. H.* (8) ix, p. 642 (1912).

Body and legs ochraceous; two transverse black lines (not meeting medially) on anterior margin of front, two linear black transverse spots (sometimes indistinct) on each marginal area of vertex before eyes, the interior margins of which are also black; mesonotum with four ill-defined obconical spots and four minute black spots on its anterior margin: abdominal segments above with transverse darker suffusions; bases of metasternum and first abdominal segment beneath black; tegmina and wings hyaline, the venation, costal membrane and extreme base of tegmina, and upper inner margin of abdominal area to wings, ochraceous; head considerably shorter than space between eyes; pronotum with the lateral margins sinuate, obtusely and subangularly prominent before middle; tympana imperfectly covered, the flaps shorter and narrower than tympanal cavities; rostrum almost reaching the posterior coxæ; opercula in male inwardly obliquely divergent, extending to about the apex of third abdominal segment, their apices somewhat broadly rounded.

Length excl. tegm., ♂, 23-27; exp. tegm. 67-74 millim.

*Hab.* Assam; Goalpara (*Brit. Mus.*).

This species, which was sent to me by Dr. A. D. Imms, Forest Zoologist to the Government of India, can be separated from the other Indian species of the genus as yet described by the broader apices of the opercula and the non-infusate transverse veins to tegmina.

Genus **QUINTILIA**. (Vol. III, p. 169.)3155. **Quintilia pomponia**, *Dist. A. M. N. H.* (8) ix, p. 640 (1912).

♀. Head black, anterior margin of front with some obscure yellow spots, ocelli testaceous; pronotum brownish ochraceous, somewhat thickly pilose, with a broad central black fascia widened anteriorly and posteriorly and enclosing a central longitudinal ochraceous line, obscure black oblique fasciæ on each lateral area, and the posterior margin also more or less suffused with black; mesonotum black, with two obconical spots margined with ochraceous and with more or less well-defined ochraceous suffusions; abdomen above black, pilose, the posterior margins of the segments faintly narrowly paler; body beneath black, strongly palely pilose, disk of abdomen ochraceous, with central black spots; legs black or piceous; coxæ, trochanters, bases of femora and basal annulations on intermediate and posterior tibiæ, ochraceous; face and rostrum black, the lateral areas of the first strongly palely pilose, basal annulation on the latter ochraceous; tegmina and wings hyaline, narrowly ochraceous at base; tegmina with the costal membrane and basal cell ochraceous, apical vein

to radial area, apical vein to lower ulnar area, basal vein to second apical area, and a spot near middle of lower vein to third ulnar area infusate; wings with the bases of the apical areas (excluding sixth), a large spot near inner apex of abdominal area, and two more obscure basal spots, black or fuscous; head (including eyes) narrower than base of mesonotum; posterior angles of pronotum broadly ampliate; mesonotum (including cruciform elevation) about as long as head and pronotum together; abdomen robust, longer than space between apex of head and

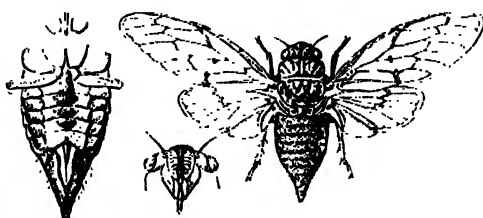


Fig. 5.—*Quintilia pomonid*.

base of cruciform elevation; tegmina about three times as long as broad.

Length excl. tegm., ♀, 19; exp. tegm. 49 millim.

*Hab.* North India; near Dehra Dun (*Brit. Mus.*).

Allied to *Q. subvitta*, Walk. (vol. iii, p. 169) but a larger species; tegmina and wings with considerably less fuscous markings, the two upper ulnar tegminal areas longer, the second not only longer but much more attenuated anteriorly, basal cell distinctly broader, lateral margins of pronotum more angulate anteriorly; abdomen longer than in corresponding sex of *Q. subvitta*.

### (Genus **BIJAURANA**.)

*Bijaurana*, *Dist. A. M. N. H.* (8) ix, p. 648 (1912).

Type, *B. typica*, *Dist.*

*Distribution.* British India.

Allied to *Taipinga*, *Dist.*, a genus found in China and South Africa, but the tegmina with only seven apical areas, the first and seventh areas about equal in length; front very much shorter than vertex, which is distinctly longitudinally sulcate at base; pronotum a little longer than head, the lateral margins oblique, slightly sinuate, the posterior angles moderately, subangularly ampliate; abdomen longer than space between apex of head and base of cruciform elevation; tympanum entirely exposed; opercula in male about reaching base of abdomen, not meeting internally, apical margins obliquely rounded; rostrum reaching the intermediate coxae.

3156. *Bijaurana typica*, *Dist. A. M. N. H.* (8) ix, p. 648 (1912).

Body and legs dull ochraceous; ocelli red; eyes piceous; mesonotum with more or less distinct indications of four obconical darker spots; tegmina and wings hyaline, the former with the venation ochraceous, the costal margin narrowly black, the latter with the veins ochraceous, the upper half of the

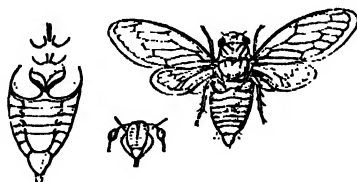


Fig. 6.—*Bijaurana typica*.

abdominal area and the outer margin of same palely infusate, opaque; head (including eyes) a little narrower than base of mesonotum; rostrum piceous, reaching the intermediate coxæ; face somewhat compressed, longer than broad, with a distinct fine-central sulcus, the transverse striations somewhat obscure.

Length excl. tegm.  $12\frac{1}{2}$ ; exp. tegm. 29 millim.

*Hab.* Nepal; Bijaura (*Ind. & Brit. Mus.*).

3157. *Bijaurana sita*, *Dist. A. M. N. H.* (8) ix, p. 649 (1912).

♂. Head almost totally black, ocelli red; pronotum dull ochraceous with some piceous suffusions; mesonotum ochraceous, with four large black obconical spots, the two central spots shortest; abdomen above ochraceous, a central fascia and marginal segmental spots pitchy brown; body beneath and legs ochraceous, space between face and eyes, rostrum, and a central basal spot on abdomen piceous; tegmina and wings hyaline, both marked as in the preceding species (*B. typica*); pronotum centrally distinctly and somewhat broadly longitudinally sulcate, by which character—apart from coloration—it principally differs from *B. typica*.

Length excl. tegm., ♂, 12; exp. tegm. 29 millim.

*Hab.* India; United Provinces (*Brit. Mus.*).

A female specimen from Nepal, belonging to the Indian Museum, may prove to be the other sex of this species.

Genus **MELAMPSALTA**. (Vol. III, p. 171.)

3158. *Melampsalta zenobia*, *Dist. A. M. N. H.* (8) ix, p. 649 (1912).

Body above black, shortly greyishly pilose; lateral margins of vertex, margins and a central fascia to pronotum, margins and

a large discal anteriorly triangulated spot on mesonotum, cruciform elevation, tympana, and posterior segmental margins, testaceous red; body beneath and legs reddish testaceous; face (excluding margins), cheeks, bases of tibiæ, tarsi (more or less), and a central spot at base of abdomen, black; opercula ochraceous, greyishly pilose; rostrum not extending beyond the intermediate coxæ; tegmina and wings hyaline, the venation reddish or



Fig. 7.—*Melampsalta zenobia*.

fuscous; wings with the margins of the abdominal area more or less fuscous.

Length excl. tegm.  $15\frac{1}{2}$ ; exp. tegm. 36 millim.

Hab. Nepal; Gowchar, Thankote, Nagorkote (Ind. & Brit. Mus.).

Allied to *M. literata*, Dist. (vol. iii, p. 173), but differing in the narrower and more elongate face, different coloration and markings, &c.

## Family FULGORIDÆ. (Vol. III, p. 175.)

In this large family a considerable number of additions require to be made, and even then our knowledge must be still considered as fragmentary, so far at least as the smaller species are concerned. Probably the subfamily Fulgorinæ is best known.

### Subfamily FULGORINÆ. (Vol. III, p. 178.)

Genus **PYROPS**. (Vol. III, p. 179.)

3159. **Pyrops distanti**, Schmidt, Zool. Anz. xxxviii, p. 163 (1911).

Head, thorax, sternum, and legs pale brownish ochraceous; about basal half of cephalic process, and pro- and mesonota, somewhat thickly and prominently spotted with black, anterior half of cephalic process very sparingly and laterally black-spotted; abdomen above black, with transverse ochraceous segmental margins; abdomen beneath pale brownish ochraceous; tegmina sordidly greyish, the venation more or less ochraceous, closely



dotted with small black spots, a few of which are margined with greyish; wings lacteous, the venation pale brownish ochraceous; cephalic process a little longer than abdomen, robust, its apex moderately, obliquely widened and spatulate, the margins prominently carinately recurved, the whole length of the process is tricarinate, on the apical half the carinæ are somewhat close

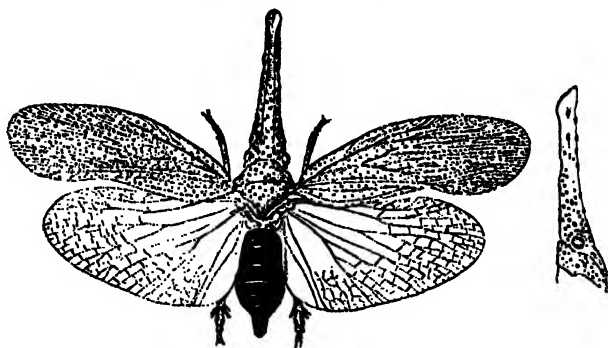


Fig. 8.—*Pyrops distanti*.

together and the outer carinæ sinuate, on the posterior half the carinations are wider apart and straighter.

Length excl. tegm. 42; head 21; exp. tegm. 65 millim.

Hab. Burma; Karen-ni (Fea).

Dr. Gestro has kindly enabled me to figure the male type of this species, which is contained in the Genoa Museum.

### Genus **FULGORA**. (Vol. III, p. 182.)

#### **FULGORA CANDELARIA**. (Vol. III, p. 183.)

*Pyrops candelaria*, *Kersh. Zool. Jahrb. Syst.* xxix, pp. 105-124, Taf. 8, 9, 10 (1910).

Under the generic name of *Pyrops*, Kershaw has published a "Memoir on the Anatomy and Life History of *Fulgora candelaria*."

3160. **Fulgora peguensis**, *Schmidt, Zool. Anz.* xxxviii, p. 161 (1911).

Head (including cephalic process) both above and on lateral areas black, extreme apex and basal lateral areas ochraceous, beneath dark brownish ochraceous, posterior lateral areas of face and the whole of the clypeus ochraceous; pronotum above ochraceous, two broad central longitudinal fasciæ, an oblique fascia on each lateral area, and a lateral marginal line behind eyes, black; mesonotum ochraceous, six small spots on anterior margin, two central longitudinal fasciæ, an oblique spot near each lateral

margin, each followed by a smaller rounded spot, black; abdomen above ochraceous, with a basal black transverse fascia; body beneath and legs ochraceous; rostrum (excluding base), inner spots on pro- and mesonota, tibiæ and tarsi, and transverse abdominal segmental fasciæ, black; tegmina black, the whole of the venation, and a series of small spots with paler margins, ochraceous; wings ochraceous, with the apical area and posterior margin—somewhat broadly—black; cephalic process considerably recurved upwards, its apical area distinctly compressed, behind which there are two prominent, longitudinal discal carinations,

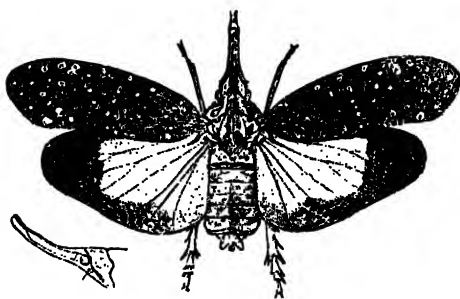


Fig. 9.-- *Fulgora pygmaea*.

between which on basal half is a straight, central carination; on lateral margins, a little in front of eyes, there is a short but distinct spine; pronotum centrally carinate; mesonotum tricarinate.

Length ceph. process, angle from apex to eyes, 10; eyes to apex abdom., 19; exp. tegm. 58 millim.

*Hab.* Burma; Palon, Pegu (*P'ea*).

I am indebted to Dr. Gestro for affording me an opportunity to figure the typical female specimen of this species contained in the Genoa Museum.

#### FULGORA MACULATA. (Vol. III, p. 189.)

Bugnion (J. Psychol. 13, pp. 326-354 (1908)) has described the "système nerveux et organes sensoriels" of this species. I have not been able to consult this publication, but take my citation from Dr. D. Sharp (Zooalog. Record, 1908, p. 402).

#### SAIVA INSULARIS. (Vol. III, p. 196.)

Mr. E. E. Green has sent me a female specimen of this species in which the wings (excluding the apical area and posterior margin) are sanguineous and not ochraceous as in the type. It is not altogether unusual to find this change of coloration in the Fulgorinæ, and I have recently ('Insecta Transvaaliensia,' p. 186)

recorded it as found in the South African Fulgorid, *Mantosyna hæmorrhoidalis*, Oliv.

The dimensions of this ♀ specimen are:—Length ceph. process, angle from apex to eyes, 13; eyes to apex abdom. 13; exp. tegm. 44 millim.

I have also received from Mr. Green a very small ♂ specimen of this species which is typical in coloration, of which the dimensions are:—Length ceph. process, angle from apex to eyes, 11; eyes to apex abdom. 9; exp. tegm. 30 millim.

Both the above specimens were taken at Kandy.

**SAIVA CARDINALIS.** (Vol. III, p. 195.)

*Fulgora cardinalis*, Schmidt, *Stett. ent. Zeit.* lxi, p. 356 (1905).

By a strange coincidence Herr Schmidt has not only redescribed Butler's species, but has chosen the same specific name.

Genus **HOMALOCEPHALA.** (Vol. III, p. 199.)

**HOMALOCEPHALA FESTIVA.** (Vol. III, p. 199, fig. 86.)

Add: *Hab.* Ceylon (*Green*).

Genus **KALIDASA.** (Vol. III, p. 212.)

**KALIDASA LANATA**, *Dr.* (Cicada) *Ill. Ex. Ent.* ii, Index, t. xxxvii, fig. 3 (1773).

*Kalidasa albiflos*, *Walk.* (Vol. III, p. 214.)

Since recording this species under Walker's name, I have discovered that it was previously described by Drury.

Subfamily **EURYBRACHYDINÆ.** (Vol. III, p. 219.)

Genus **EURYBRACHYS.** (Vol. III, p. 220.)

3161. **Eurybrachys mysorensis**, *Dist. A. M. N. II.* (8) xiii, p. 410 (1914).

Head, pronotum, and mesonotum shining olivaceous green; eyes ochraceous; abdomen above sanguineous, with transverse black segmental margins, apically thickly furnished with waxy-white efflorescence; face dark olivaceous green, transversely paler olivaceous green before clypeus, which is blackish; sternum and abdomen sanguineous, the latter with transverse black segmental fasciæ; legs black; tegmina with about basal three-fourths olivaceously virescent, crossed by two paler transverse fasciæ, apical fourth dull greyish green; wings with basal two-thirds

sanguineous, apical third greyish white; head (including basal area of face), pronotum, and mesonotum finely obscurely wrinkled, and with faint minute dark speckling; rostrum mutilated in type; posterior tibiae with five spines.

Length excl. tegm. 9; exp. tegm. 21 millim.

*Hab.* Mysore; Bababudin Hills (*Bainbrigge-Fletcher, Brit. Mus.*); Kodaikanal (*T. V. Campbell*).

**3162. *Eurybrachys fletcheri*, Dist. A. M. N. H. (8) xiii, p. 410 (1914).**

Head, pronotum, and mesonotum more or less bright olivaceous green; abdomen above purplish red, apically thickly furnished with waxy-white efflorescence; face emerald-green; clypeus fuscous brown; body beneath and legs purplish red, intermediate and posterior tibiae blackish; tegmina virescent, more or less

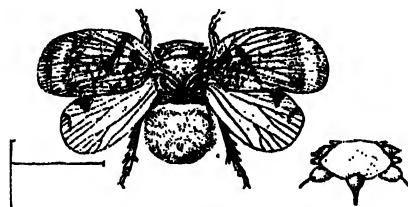


Fig. 10.—*Eurybrachys fletcheri*.

obscurely spotted with greyish white, the basal area somewhat emerald-green, remaining area duller and paler, two transverse black fasciate spots near base, not reaching claval area; a transverse greyish-white fascia near apex, preceded by a black spot on inner margin; wings greyish white, with two black apical spots; head moderately concavely excavate between the eyes; posterior tibiae with five spines.

Length excl. tegm. 11; exp. tegm. 25 millim.

*Hab.* Madras Pres.; Shevaroy Hills, 4500 ft. (*Bainbrigge-Fletcher, Brit. Mus.*).

**3163. *Eurybrachys rubro-ornata*, Dist. A. M. N. H. (8) xiii, p. 410 (1914).**

Head, pronotum, and mesonotum ochraceous; mesonotum obscurely spotted, its apex and exposed area of metanotum purplish red; abdomen above bright ochraceous, the segmental margins spotted with greyish white; face ochraceous; clypeus, sternum, and legs purplish red, intermediate and posterior tibiae black; abdomen beneath bright ochraceous, with central transverse spots and the apex black; tegmina ochraceous, with a large central, basal, longitudinal, purplish-red spot, a subapical greyish

transverse fascia united with a brownish apical margin; wings greyish white, with a prominent black spot on upper margin near apex; vertex (including eyes) about as broad as pronotum; face considerably broader than long, the lateral angles subacute; posterior tibiæ with five spines.

Length excl. tegm. 11; exp. tegm. 25 millim.

*Hab.* S. India; Yercaud (*T. V. Campbell*).

**EURYBRACHYS TOMENTOSA.** (Vol. III, p. 222.)

Mr. E. A. Butler has recently shown me a male specimen which he had received from Dr. T. V. Campbell, and which that excellent collector stated he had taken in *cop.* with a normal ♀ specimen (also forwarded) of this species. This ♂ specimen differs in having the apical areas of the wings nearly wholly black with a central transverse white fascia.

I take this male specimen to be a varietal form of this very variable species.

Add: *Hab.* S. India; Chikkaballapura.

Genus **MESSENA.** (Vol. III, p. 226.)

**MESSENA RADIATA.** (Vol. III, p. 228.)

*Var.* Tegmina with the purplish basal coloration not extending much above the claval area; wings with the two upper subapical marginal spots fused and larger in size.

Add: *Hab.* S. India; Merkara, Coorg, 4500 ft.

3164. **Messena albifasciata**, *Dist. A. M. N. H.* (8) xiii, p. 411 (1914).

Head, pronotum, and mesonotum testaceous, with irregular darker markings; face and clypeus as above, but paler and more

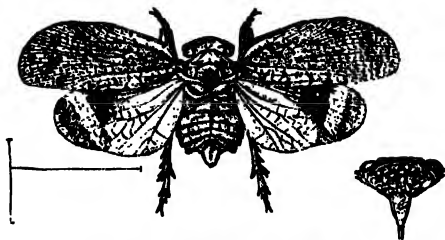


Fig. 11.—*Messena albifasciata*.

brightly marked; abdomen sanguineous; sternum and legs ochraceous, with black markings, tibiæ darker and more or less black; tegmina with about basal two-thirds (not reaching costal margin

and narrowed outwardly) testaceous, irregularly marked and spotted with black, the claval area dull ochraceous, spotted and marked with black, remaining area greyish white with the venation ochraceous, a large subapical transverse ochraceous spot with black markings, preceded by two similar spots, but smaller in size, and a submarginal series of small black spots; wings pale fuliginous, the apical area black crossed by an oblique white fascia, the apical margin also white; posterior tibiae with six spines.

Length excl. tegm. 9; exp. tegm. 34 millim.

*Hab.* Nilgiri Hills; Hillgrove, 4000 ft. (*Brit. Mus.*).

Allied to *M. sinuata*, Atkins. The specimen was received from Mr. T. Bainbrigge-Fletcher.

Genus **THESSITUS**. (Vol. III, p. 230.)

3165. *Thessitus fea*, Schmidt, *Zool. Anz.* xxxviii, p. 165 (1911).

Body and legs ochraceous; the latter more or less virescent, tarsi fuscous-brown; tegmina opaque, shining, greyish-white, the venation ochraceous, a large basal ochraceous patch occupying the central area from base to a little beyond middle, paler ochraceous both above and beneath, and with very irregularly shaped black spots, above the middle of this ochraceous area, but not reaching costal margin, a large oblique sanguineous spot; wings

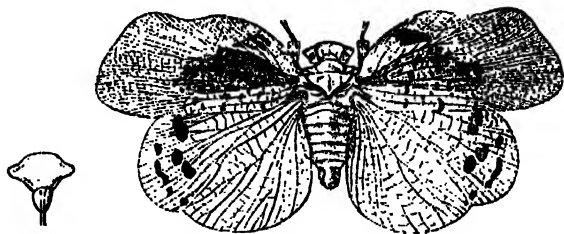


Fig. 12. - *Thessitus fea*.

cretaeous-white, apical area with a cluster of pale spots, of which the inner three are larger and the outer series (of about five) smaller. Wings considerably broader than the tegmina, the latter profoundly sinuate on costal margin near apex, the apical margins oblique; face with the lateral margins broadly concavely sinuate and submarginally ridged; vertex of head not quite twice as broad as long; posterior tibiae with six spines.

Length excl. tegm. 16; exp. tegm. 56 millim.

*Hab.* Burma; Karen-ni (*Fea—Genoa Mus.*).

The type by the kindly aid of Dr. Gestro is here figured.

## Subfamily DICTYOPHARINÆ. (Vol. III, p. 236.)

Genus **DICHOPTERA**. (Vol. III, p. 237.)

**DICHOPTERA** STRIGIVITTA to replace *D. nubiila*. (Vol. III, p. 239.)

*Dichoptera strigivitta*, *Walk. Ins. Saund., Hom.* p. 36 (1858); *Dist. A. M. N. H.* (7) xviii, p. 340 (1906).

As previously stated (*supra*), I have been enabled to examine the unique type of Walker's species from the Saunders Collection and find it to be only a faded example of my *D. nubiila*. Walker's name must therefore take precedence.

*Add: Hab. Borneo, Java.*

Genus **DICTYOPHARA**. (Vol. III, p. 241.)

3166. *Dictyophara dixonii*, *Dist. A. M. N. H.* (7) xviii, p. 351 (1906); *Melich. Abhand. k.-k. Zool.-Bot. Ges. Wien*, vii, 1, p. 127 (1912).

Body and legs virescent or ochraceous; tegmina and wings pale hyaline, the venation very pale ochraceous; head curved upwardly, narrowing to apex, in front of eyes about as long as mesonotum, above with the lateral margins strongly ridged, and with a very short central ridge near middle; face tricarinate, the lateral carinations moderately converging before clypeus, which is strongly centrally carinate, and obliquely striate on each lateral area; pronotum centrally carinate; mesonotum tricarinate, the lateral carinations almost straight, not convexly converging anteriorly; posterior tibiæ with five spines, their apices black, first spine near extreme base; rostrum considerably passing posterior coxæ; femora and tibiæ strongly sulcate longitudinally.

Length excl. tegm. 11; exp. tegm. 26 millim.

*Hab.* Bombay (*R. M. Dixon*); Lucknow (*Brunetti*); Calcutta (*Incl. Mus.*).

3167. *Dictyophara cummingi*, *Dist. A. M. N. H.* (7) xviii, p. 351 (1906); *Melich. Abhand. k.-k. Zool.-Bot. Ges. Wien*, vii, 1, p. 125 (1912).

Body and legs virescent or ochraceous; eyes black; tegmina and wings hyaline, with the venation very pale ochraceous; head prolonged, robust, porrect, slightly ascending at tip, strongly excavate above, the ridges very pronounced, its length from in front of eyes about equal to that of pronotum and mesonotum together; face tricarinate, the lateral carinations converging anteriorly and not extending posteriorly beyond the eyes; clypeus centrally carinate; pronotum tricarinate, the lateral carinations

obscure, oblique and tuberculous; mesonotum tricarinate; posterior tibiae with four spines, one at base and apex, the other two central; tegmina a little more opaque than wings, the stigma concolorous,

Length excl. tegm.  $9\frac{1}{2}$ ; exp. tegm. 20 millim.

*Hab.* Karachi (Cumming); Calcutta (fide Melichar).—Japan (fide Melichar).

3168. *Dictyophara coimbatorensis*, *Dist. A. M. N. II.* (8) xiii, p. 411 (1914).

Body and legs virescent; in one specimen the head is wholly ochraceous, in another the apex only is of that colour; tegmina and wings hyaline, the first without any macular markings; head about as long as pro- and mesonota together, slightly narrowed and upturned at apex, the lateral margins strongly ridged; face tricarinate, the lateral carinations converging anteriorly and not extending posteriorly beyond the eyes; clypeus centrally carinate; pronotum and mesonotum tricarinate, posterior tibiae with four spines.

Length excl. tegm. 7-9; exp. tegm. 16-19 millim.

*Hab.* South India; Coimbatore (*Bainbrigge-Fletcher, Brit. Mus.*).

Closely allied to *D. cummingi*, *Dist.*, but with the lateral pronotal carinations less oblique, the face more apically narrowed, different colour, etc.

DICTYOPHARA PALLIDA. (Vol. III, p. 243.)

The late Mr. Kirkaldy (*Ann. Soc. Ent. Belg.* 1907, p. 123), writing on this well-known enemy to the sugar-cane, stated that the species thus enumerated by me as *D. pallida*, Don., was really *Pyrilla aberrans*, Kirby. This criticism is quite mistaken and without foundation, as I have shown (*Ann. Soc. Ent. Belg.* 1907, p. 220) at a length which need not be repeated here. Melichar (*Mon. Dictyophoriden*, 1912, p. 124) supports my nomenclature and includes *D. striata*, Osh. (*Faun. Hem. Turkest.* i, 1879, p. 129), which increases the distribution of the species.

Add: *Hab.* Armenia, Turkestan. China; Sze-chuen.

I have seen a varietal form taken by Mr. Campbell at Chikballapura, S. India, in which the abdomen has a distinct black longitudinal fascia above.

### Genus DORYPHORINA.

*Doryphorina*, *Melich. Abhand. k.-k. Zool.-Bot. Ges. Wien*, vii, 1, p. 99 (1912).

Type, *D. stali*, Melich.

*Distribution.* Burma, Malay Peninsula, Sumatra.

"Resembling the genus *Lappida*. The long cylindrical cephalic process is sharp-edged, the surface hollowed, the upper side not



carinate; the apex is very slightly dilated and indistinctly carinate; face long, parallel-sided, not dilated before the clypeus, with three carinations; clypeus carinate in the middle; antennæ short; pronotum narrow, truncated in front, behind obtusely emarginate, the sides straight, the upper surface with three carinæ, two lateral carinæ behind the eyes and a third on the lateral lobe; scutellum with three parallel carinæ; the side pieces of the prosternum are also provided with a carination. Tegmina hyaline, dilated behind, stigma triangular, five cells, with many cross-veins in the apical part; posterior tibiæ with five or six spines." (*Melichar.*)

3169. *Doryphorina stali*, *Melich. Abhand. k.-k. Zool.-Bot. Ges. Wien*, vii, 1, p. 99 (1912).

"Body yellowish or reddish-brown, with all the carinations emerald-green; the face pale red, the lateral carinations before the clypeus abbreviated; tegmina hyaline, stigma brown, becoming fasciate internally, the cross-veins outlined with brown; femora and tibiæ longitudinally striped with black." (*Melichar.*)

Length, ♂ and ♀, 18; transverse exp. 23; head with process 5-6 millim.

*Hab.* Burma.—Perak; Sumatra.

I have not seen this species.

### Genus **PUTALA**. (Vol. III, p. 246.)

*PUTALA MACULATA*, *Dist.* (Vol. III, p. 247.)

*Putala sima*, *Bergr. Wien. ent. Zeit.* xxvi, p. 290 (1907).

*Miasma? sima*, *Melich. Abhand. k.-k. Zool.-Bot. Ges. Wien*, vii, 1, p. 40 (1912).

Add: *Hab.* Bombay.

Bergroth founded his species on nothing more than a distorted spirit specimen. I have seen his type.

3170. *Putala brachycephala*, *Dist. A. M. N. II.* (7) xviii, p. 354 (1900).

Head, thorax, body beneath, and legs brownish ochraceous; carinations to pro- and mesonota much paler in hue; abdomen above piceous, with ochraceous macular markings; apex of clypeus, linear markings on femora, apices of tibiæ and tarsi, and apex of rostrum fuscous; tegmina and wings hyaline, the venation fuscous; tegmina with the stigma and a central longitudinal apical patch fuscous; head short, only about as long in front of eyes as between them; face narrowed at base, widened towards clypeus, tricarinate; clypeus centrally carinate and on

each lateral area obliquely striate; posterior tibiæ with five spines; mesonotum tricarinate.

Length excl. tegm.  $7-7\frac{1}{2}$ ; exp. tegm.  $19\frac{1}{2}-20$  millim.

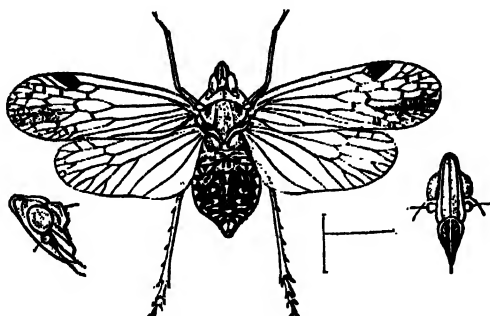


Fig. 13.—*Putala brachycephala*.

*Hab.* South India; Coimbatore (*Bainbrigge-Fletcher*), Bombay (*Dixon*). Singapore (*Ridley*).

### Genus **AWARAMADA**.

*Arawamada*, *Dist. A. M. N. H.* (8) xiii. p. 412 (1914).

*Type*, *A. fryeri*, *Dist.*

*Distribution.* At present only known from Ceylon.

Head elongate and strongly porrect, above a little convexly raised and with a strong central longitudinal carina, lateral margins also carinate, apex truncate, beneath with a small sub-apical tubercle, the face with a slight lateral concave sinuation, angularly amplified behind eyes, two longitudinal central carinations which are united anteriorly and posteriorly, clypeus robustly carinate centrally; rostrum passing the posterior coxæ; pronotum a little shorter than mesonotum, the disk straightly tricarinate, strongly deflected on each lateral area, lateral basal margins oblique; mesonotum tricarinate, the base angularly produced in the centre; abdomen shorter than head, pronotum, and mesonotum together, centrally longitudinally ridged; anterior femora unarmed, posterior tibiæ with three strong spines; tegmina nearly four times as long as broad, apical area with three transverse series of longitudinal cells, clavus without a transverse vein; wings about three-fourths the length of tegmina, with a series of apical and two prominent anteapical cells.

3171. *Awaramada fryeri*, *Dist. A. M. N. H.* (8) xiii, p. 413 (1914).

Body and legs fuscous brown, head beneath, sternum, and legs a little paler; tegmina slightly infuscate, the venation fuscous

brown, the stigma and an apical elongate spot fuscous brown; wings paler than tegmina, the venation and an apical spot fuscous brown; pronotum with some darker punctate spots, posterior angle of mesonotum dull ochraceous; abdomen above

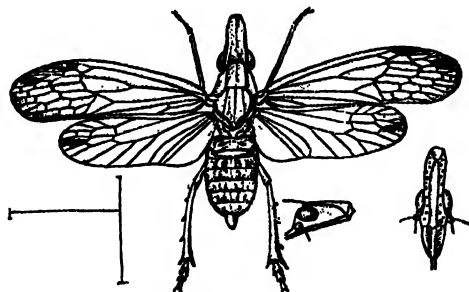


Fig. 14.—*Awaramada fryeri*.

mottled with ochraceous; lateral areas of face finely spotted with brown; clypeus with the central carination and the lateral margins pale ochraceous; structural characters as in generic diagnosis.

Length excl. tegm.  $12\frac{1}{2}$ – $13\frac{1}{2}$ ; exp. tegm. 28–30 millim.

*Hab.* Ceylon; Kandy (*J. O. F. Fryer, Brit. Mus.*).

Genus **MIASA**. (Vol. III, p. 247.)

**MIASA SMARAGDILINEA**. (Vol. III, p. 248.)

*Miasa rubrovittata*, Schmidt, *Stett. ent. Zeit.* 1906, p. 284; *Melich. Abhand. k.-k. Zool.-Bot. Ges. Wien*, vii, 1, p. 39, Taf. 11 fig. 3 (1912).

This species has been named *rubrovittata* and described as new by Schmidt, who states that it differs from the description given by Walker of his species. Walker's type from Malacca is in the British Museum, as is also a series of other specimens from the Malay States, and these agree entirely and explicitly with the specimens from Tenasserim, one of which I figured and described as above. As Schmidt gives his habitats as Sumatra and Java, he has probably confused the species altogether; and this suggestion seems more than borne out by the figure given by Melichar of his species.

†

Genus **ORTHOPAGUS** to replace **UDUGAMA**. (Vol. III, p. 249.)

*Anagnia*, Stål, *Stett. ent. Zeit.* xxii, p. 149 (1861), nom. præocc.  
*Orthopagus*, Uhler, *Proc. U.S. Mus.* xix, p. 278 (1896); *Melich. Abhand. k.-k. Zool.-Bot. Ges. Wien*, vii, 1, p. 57 (1912).

Udugama, *Melich. Hom. Faun. Ceylon*, p. 27 (1903).

Kareol, *Kirk, Entomologist*, 1904, p. 279.

Stål's name being preoccupied, I substituted Melichar's *Udugama* for it. Since then Melichar has satisfied himself that Uhler's *Orthopagus* has priority. The type must now stand as *O. lunulifer*, Uhler, from Japan, and *Udugama splendens* (vol. iii, p. 249) must be known as *Orthopagus splendens*.

Genus **CENTROMERIA**. (Vol. III, p. 250.)

*CENTROMERIA VIRIDISTIGMA*. (Vol. III, p. 251.)

*Udugama fletcheri*, *Kirk. Ann. Soc. Ent. Belg.* 1908, p. 14.

*Orthopagus fletcheri*, *Melich. Abhand. k.-k. Zool.-Bot. Ges. Wien*, vii, 1, p. 59 (1912).

Subfamily CIXIINÆ. (Vol. III, p. 255.)

Genus **OLIARUS**. (Vol. III, p. 256.)

3172. *Oliarus indicus*, *Dist. A. M. N. H.* (8) viii, p. 735 (1911).

Head black, the margins of the vertex ochraceous; pronotum and mesonotum black, the margins of the first and the central carinations and lateral margins of the latter ochraceous; abdomen above black, the segmental margins more or less ochraceous; face black, its central carination and lateral margins ochraceous; body beneath and legs ochraceous or brownish ochraceous; tegmina creamy white, subhyaline, with bronzy-brown suffusions, these consist of a narrow basal fascia, a broader and more irregular fascia before middle, but neither reaching costal nor inner areas, and an oblique fascia extending from middle of apical margin, where it is broadest, and terminating a little beyond claval apex, the veins and stigma are also fuscous brown; wings subhyaline, the veins fuscous brown; vertex longer than broad, the lateral margins strongly elevated; pronotal margins moderately prominent; mesonotum with longitudinal ridges; face obtusely angulated near middle.

Length excl. tegm. 5 mm.; exp. tegm. 19 mm.

*Hab.* "India" (*Brit. Mus.*).

Allied to *O. caudatus*, Walk., but differing in the more angulated margins of the face, suffusions on tegmina, different coloration, &c.

3173. *Oliarus greeni*, *Dist. A. M. N. H.* (8) viii, p. 735 (1911).

Vertex, pronotum, and mesonotum black; margins of vertex and pronotum ochraceous, the longitudinal ridges on mesonotum concolorous or faintly testaceous; abdomen above black, ochraceous at base; face and clypeus mostly black, their margins and central

ridge ochraceous; sternum and legs more or less ochraceous, the latter streaked with piceous; abdomen beneath black, the base, segmental margins, and anal appendages ochraceous; tegmina and wings hyaline with black markings, of which there are three spots in transverse series about one-third from base, all the transverse veins beyond middle, the stigma, an apical spot beyond it, about five smaller subapical spots, and minute spots at the apices of the longitudinal veins to apical areas; wings with the veins darker but unspotted; vertex longer than broad, the margins strongly ridged; face longer than breadth before clypeus, gradually and somewhat convexly widened to base of clypeus, the margins and central ridge strongly developed; mesonotum with five longitudinal ridges; tegmina about twice as long as broad.

Length excl. tegm. 4-5, exp. tegm. 11-15 millim.

*Hab.* Ceylon; Kandy, Eppawela (*Green, Brit. Mus.*).

To be placed near *O. stigma*, Motsch.

3174. *Oliarus annandalei*, *Dist. A. M. N. H.* (8) viii, p. 736 (1911).

Head ochraceous, the vertex behind the marginal ridges black; pronotum ochraceous, with a transverse piceous foveate line on each side; mesonotum shining black, the longitudinal ridges concolorous; abdomen above black, the posterior segmental margins ochraceous; face black, the marginal and central ridges ochraceous; sternum black; abdomen beneath and legs ochraceous, femora

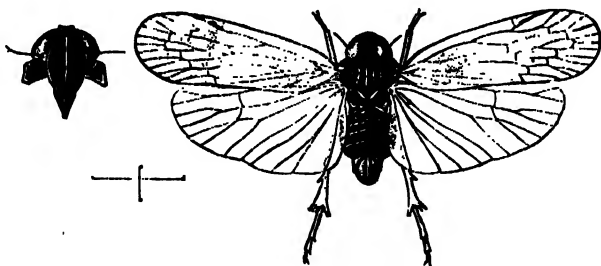


Fig. 15.—*Oliarus annandalei*.

more or less streaked with piceous; tegmina hyaline, a broad bronzy-brown fascia near base and a little more than apical third fuscous brown; wings hyaline, the veins a little darker; vertex longer than broad, the marginal ridges strongly developed; pronotum very short, especially at middle, marginal ridges strongly developed; mesonotum with five discal longitudinal ridges; posterior tibiae with a distinct submedial spine; tegmina about three times as long as broad, the stigma elongately triangular, ochraceous, its inner margin black.

Length excl. tegm.  $4\frac{1}{2}$ , exp. tegm. 12 millim.

*Hab.* Lower Bengal; Port Canning (*Annandale, Ind. Mus.*).

3175. *Oliarus hodgarti*, *Dist. A. M. N. H.* (8) viii, p. 736 (1911).

Allied to the preceding species, *O. annandalei*, but with the vertex shorter and broader; tegmina shorter and comparatively broader, less than three times as long as broad and without a broad basal bronzy fascia; face a little narrower and the lateral margins less convexly rounded.

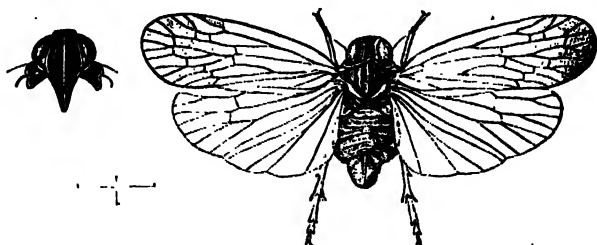


Fig. 16.—*Oliarus hodgarti*.

Length excl. tegm. 4; exp. tegm.  $9\frac{1}{2}$ –10 millim.

*Hab.* Bengal; Goalbathan (*R. Hodgart*). Bandel, Hooghly District (*C. Paiva*). Chapra (*Mackenzie, Brit. Mus.*). Sara Ghat, River Ganges (*J. T. Jenkins*). Kurseong, Sikkim.

In some specimens the fuscous apical area to the tegmina is almost obliterated, but the veins there are then distinctly infuscated.

3176. *Oliarus similæ*, *Dist. A. M. N. H.* (8) viii, p. 737 (1911).

Body above black, margins of vertex and pronotum, lateral margins and central-longitudinal ridges on mesonotum, and posterior segmental margins of abdomen ochraceous; face black, about posterior half, the lateral margins, and the central carination

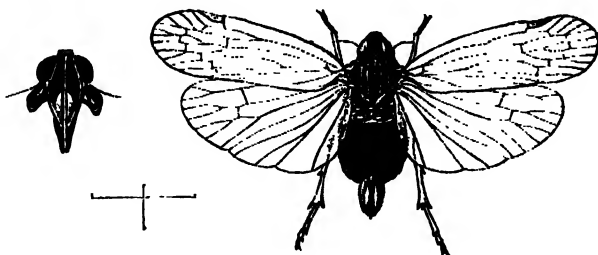


Fig. 17.—*Oliarus similæ*.

ochraceous; body beneath and legs black or piceous; rostrum (excluding apex), base of abdomen, posterior segmental margins, tibiae, tarsi, and apices of femora more or less ochraceous; tegmina and wings hyaline, the former with more than half of the venation

dull ochraceous, somewhat thickly covered with longly setose granules, veins of the apical area mostly black, stigma elongate, black; vertex elongate, distinctly longer than broad, its lateral margins strongly elevated; mesonotum with five central ridges; face nearly twice as long as broad, the central and lateral ridges acute; tegmina about three times as long as broad.

Length excl. tegm.  $5\frac{1}{2}$ ; exp. tegm. 14 millim.

*Hab.* Simla (*Brit. Mus.*).

Allied to *O. caudatus*, Walk., but differing principally by the narrower and longer face and vertex.

3177. *Oliarus kurseongensis*, *Dist. A. M. N. H.* (8) viii, p. 737 (1911).

Closely allied in general appearance to the preceding species, *O. simla*, but differing in the broader vertex (in that respect more like *O. caudatus*, Walk.), the narrower and black face, the central ridge and lateral margins of which are alone testaceous, and in the two discal transverse veins of the tegmina situate almost in a line with the commencement of the stigma, being both almost perpendicular and in a line with one another, not angulated as in *O. simla*, and more especially by a perfectly straight and continuous transverse vein on the disk of the apical area a little before the bases of the apical cells.

Length excl. tegm. 4; exp. tegm. 12–12½ millim.

*Hab.* E. Himalayas; Kurseong (*Ind. Mus.*).

3178. *Oliarus nuwara*, *Dist. A. M. N. H.* (8) viii, p. 737 (1911).

Resembling the two previous species, *O. simla* and *O. kurseongensis*, in general appearance, but differing in the following

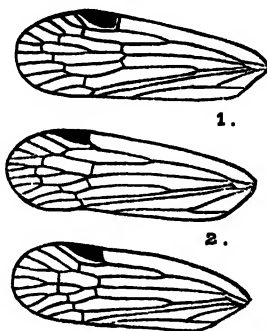


Fig. 18.—1. *Oliarus nuwara*.  
2. *Oliarus simla*.  
3. *Oliarus kurseongensis*.

structural characters:—Vertex longer than broad, thus resembling *O. simla*; face (excluding central and lateral marginal ridges).

wholly black, thus resembling *O. kurseongensis*: the most salient differences in the three species are found in the venation of the tegmina; in *O. nuware* there are three discal transverse veins a little beyond middle; in *O. similæ* two, the lowermost faint; in *O. kurseongensis* there are two, and in addition a perfectly straight and continuous transverse vein on the disk of the apical area.

Length excl. tegm. 4; exp. tegm. 12 millim.

*Hab.* Ceylon; Nuwara Eliya, Peradeniya (*Green, Brit. Mus.*).

3179. *Oliarus binghami*, *Dist. A. M. N. H.* (8) viii, p. 738 (1911).

Body above castaneous; margins of vertex and pronotum, posterior margins of mesonotum, and posterior abdominal segmental margins ochraceous; head beneath (including face), sternum, and legs pale castaneous or brownish ochraceous; abdomen beneath of the colour and markings of the upper surface; tegmina greyish white, subopaque, the venation brownish, and with the following fuscous-brown markings—three narrow spots in costal membrane, three somewhat long curved linear spots beneath costal membrane and a little beyond base, and some larger maculate markings on apical area, consisting of a spot at end of stigma, a transverse fascia before apex, apical margin and a large internal fasciate spot beneath stigma, which is bifurcate towards inner margin and there encloses a pale spot; wings very pale fuliginous with the veins darker; vertex foveate, with a central carination, the margins strongly ridged; margins of pronotum strongly ridged; mesonotum with five central carinations; face centrally and medially strongly ridged.

Length excl. tegm. 6; exp. tegm. 18 millim.

*Hab.* Rangoon (*Col. Bingham, Brit. Mus.*).

Allied to *O. stigma*, Motsch.

### Genus **MNEMOSYNE.**

Mnemosyne, *Stål, Hem. Afr.* iv, p. 150 (1866); *id. Hem. Fabr.* ii, p. 91 (1869); *Fowl. Biol. Centr.-Amer., Rhynch. Hem.-Hom.* i, p. 102 (1904).

Type, *M. planiceps*, Fabr., a Neotropical species.

*Distribution.* Neotropical and Oriental Regions.

Fowler, who worked from the Neotropical type of this genus, thus diagnoses it:—"Vertex very narrow; the three keels of the scutellum (*mesonotum*) more or less obsolete, the side ones being sometimes very faint; the frons (*face*) broad before the apex, and like the clypeus keeled in the middle and at the sides; no frontal ocellus is present, but the round scar is sometimes very distinct; tegmina more or less pellucid, the clavus with the posterior vein situated at some distance from the suture, and not continued to the apex, forming a fork with the transverse vein at about the middle, the radial vein of the corium forked much before the interior ulnar vein; posterior tibiæ bispinose."



Stål placed this genus in the Dictyopharinæ. I consider, with Fowler, that it belongs to the Cixiinae, but nearer to *Oliarus* than placed by Fowler. *Oliarus punctipennis*, Dist. (vol. iii, p. 259) must also be placed in this genus.

**MNEMOSYNE PUNCTIPENNIS.**

*Oliarus punctipennis*, Dist. vol. iii, p. 259, no. 1796.

3180. **Mnemosyne cingalensis**, Dist. A. M. N. H. (8) viii, p. 738 (1911).

Head, pronotum, and mesonotum piceous, the carinate margins of vertex and the carinations to mesonotum testaceous, the margins of pronotum ochraceous; abdomen above brownish ochraceous, the segmental margins paler; body beneath pitchy brown, the legs brownish ochraceous; tegmina milky white, subopaque, and with fuscous-brown spots and markings, which consist principally of three double sets of small spots in costal membrane, the stigma, and a broad irregular longitudinal suffusion from base to apex, the

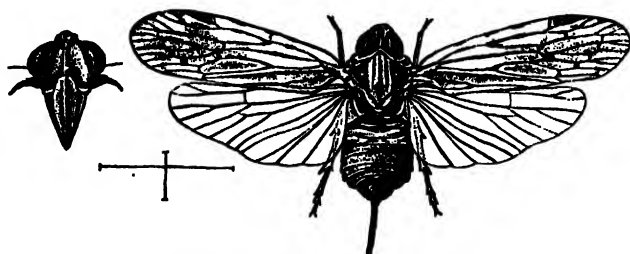


Fig. 19.—*Mnemosyne cingalensis*.

venation also fuscous brown; wings very pale fuliginous, the veins darker; vertex longer than broad, the margins strongly carinate; margins to pronotum carinate; mesonotum with five central longitudinal carinations; face centrally and marginally strongly carinate, the central carination bifurcate at apex; clypeus centrally and marginally carinate; female with a long central abdominal apical appendage; posterior tibiae with a distinct spine near middle.

Length excl. tegm.  $6\frac{1}{2}$ ; exp. tegm. 18 millim.

Hab. Ceylon; Trincomalee (Green, Brit. Mus.).

**Genus ADZAPALA.**

*Adzapala*, Dist. A. M. N. H. (8) viii, p. 739 (1911).

Type, *A. greeni*, Dist.

Distribution. Ceylon.

Head moderately large and prominent; eyes large, longer than broad; vertex longer than broad, distinctly concave, the lateral

margins carinate; face large, posteriorly about as broad as long, centrally longitudinally carinate, the carination anteriorly bifurcate, the anterior margin about half the breadth of the posterior margin, a distinct transverse incision level with the posterior margins of the eyes, before clypeus distinctly concave, an ocellus on each side near posterior margin; clypeus large and broad, almost as long as face, centrally carinate; pronotum very short, strongly straightly angulate; mesonotum large, considerably longer than head and pronotum together, with five central carinations; abdomen broad and robust; posterior tibiae strongly spined near middle; tegmina more than twice as long as broad, distinctly angulately sinuate beyond clavus, claval vein not extending much beyond the middle of clavus, stigma large, inwardly convexly rounded, two waved series of transverse veins, one beyond middle, the other nearer apex, thus defining respectively the apical and antepical cells, apical margin rounded; wings shorter and at base about as broad as tegmina, two oblique discal transverse veins beyond middle.

This genus by the five carinations to the mesonotum is allied to both *Oliarus* and *Mnemosyne*, from both of which it differs by the structure of the face and the sinuate tegmina beyond the apex of clavus, which gives it the appearance of an Achiliniid.

3181. *Adzapala greeni*, *Dist. A. M. N. H.* (8) viii, p. 739 (1911).

Vertex dull ochraceous, eyes piceous; pro- and mesonota piceous, the carinations on the latter testaceous; abdomen above fuscous brown, the lateral areas ochraceous; face greenish ochraceous, a broad transverse piceous fascia between the eyes, and the clypeus also of the latter colour; body beneath almost

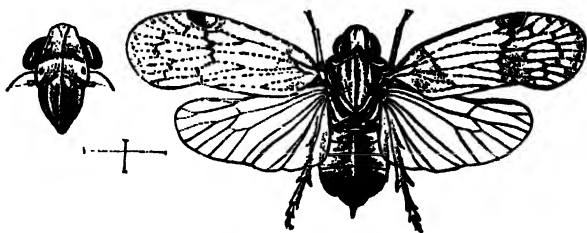


Fig. 20.—*Adzapala greeni*.

entirely piceous, the legs ochraceous, femora (excluding apices) piceous; tegmina hyaline, the veins brownish with minute setose piceous spots, the transverse veins prominently fuscous brown, costal margin with transverse piceous spots, basal area and the area of the inner transverse veins more or less bronzy brown; wings slightly pale fuliginous, the veins darker.

Length excl. tegm.  $4\frac{1}{2}$ ; exp. tegm.  $11\frac{1}{2}$  millim.

*Hab.* Ceylon; Trincomalee (*Green, Brit. Mus.*).

Genus **ADOLENDA**.

*Adolenda*, *Dist. A. M. N. H.* (8) viii, p. 740 (1911).

Type, *A. typica*, *Dist.*

*Distribution.* Northern India.

Vertex somewhat triangular, the margins strongly ridged, the angles of the face visible from above; face long and slender, narrowest between eyes and distinctly projecting above them, the margins strongly ridged, a distinct ocellus before clypeus, which is short and bears strong, central, and lateral ridges; pronotum very short, the lateral areas a little ampliate, the posterior margin strongly angularly emarginate; mesonotum a little longer than head and pronotum together, tricarinate, the lateral carinations oblique; abdomen moderately broad and robust; legs slender, posterior tibiæ unarmed; tegmina three times as long as broad, costal membrane broad and unveined, at its apex a cell enclosing stigma, beneath this three distinct subapical cells, beyond these a central longitudinal cell reaching apex, on each side of which are connected oblique cells, claval vein not reaching apex of clavus; wings broader and shorter than tegmina, two transverse veins on disk and two apical triangular cells.

Allied to the Neotropical genus *Æcleus*, Stål.

3182. *Adolenda typica*, *Dist. A. M. N. H.* (8) viii, p. 740 (1911).

Vertex, pronotum, and mesonotum brownish ochraceous, margins of vertex and pronotum, and margins and carinations to mesonotum, dull ochraceous; abdomen above piceous, narrowly ochraceous at base; head, sternum, and legs ochraceous; abdomen beneath piceous; tegmina hyaline, the veins piceous and

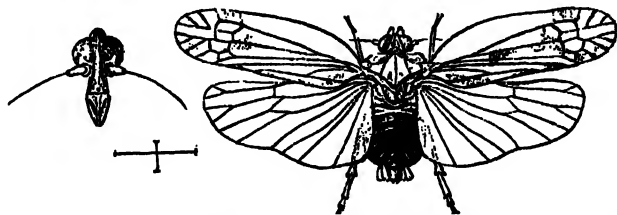


Fig. 21.—*Adolenda typica*.

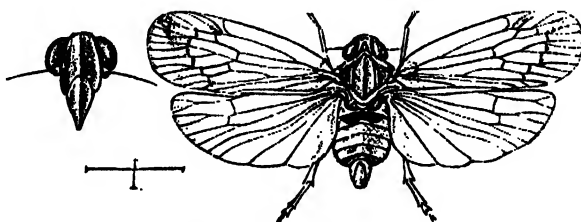
with the following fuscous-brown spots: a stigmal spot, two below costal membrane, the outermost connected with a short curved fascia which extends submarginally round posterior half of vertex, and three spots on inner margin, the basal one largest; wings hyaline, the veins darker.

Length excl. tegm. 4; exp. tegm. 11 millim.

*Hab.* Simla (*Brit. Mus.*).

Genus **ANILA**. (Vol. III, p. 260.)3183. *Anila versicolor*, *Dist. A. M. N. H.* (8) viii, p. 741 (1911).

Vertex, pronotum, and mesonotum black; lateral margins of vertex, margins of pronotum, and posterior margins of metanotum pitchy brown; abdomen above ochraceous, transverse basal and apical fasciæ black; face and sternum black; abdomen beneath and legs ochraceous; tegmina hyaline with fuscous and ochraceous shadings, the first consisting of a basal fascia, stigma and a subapical transverse fascia darkest anteriorly and posteriorly, the ochraceous shadings consist of a broad transverse fascia before middle and a more broken fascia beyond middle; wings hyaline,

Fig. 22.—*Anila versicolor*.

the venation and apex distinctly infusate; vertex as long as broad, the lateral margins raised and laminate; face longer than broad, truncate anteriorly (where it is narrowest) and concavely emarginate posteriorly (where it is broadest); clypeus moderately convex, centrally and laterally carinate; posterior tibiæ with two spines; tegmina veined as in generic diagnosis.

Length excl. tegm. 4; exp. tegm. 13 millim.

*Hab.* Sikkim; Lebong, 4500 feet (*F. M. Howlett, Brit. Mus.*).

Genus **KIRBYANA**. (Vol. III, p. 262.)

*Kirbyella*, *Kirk. Entomologist*, xxix, p. 248 (1906).

The synonymy of this genus must now include *Kirbyella*, which the late Mr. Kirkaldy proposed as a new name to take the place of *Kirbya*, Melich., which was pre-occupied. I had, however, previously proposed the substitute of *Kirbyana*.

Genus **COMMOLENDA**.

*Commolenda*, *Dist. A. M. N. H.* (8) viii, p. 741 (1911).

Type, *C. deusta*, *Dist.*

*Distribution.* Central India.

Vertex a little broader than long, centrally and laterally carinate, not extending beyond eyes, the frontal angles of the

face visible above; face as long as greatest breadth, widened towards clypeus, anterior margin truncate, posterior margin somewhat strongly emarginate, centrally carinate, the margins amply reflexed and ridged, an ocellus on each side of posterior margin; clypeus about as long as face, centrally and laterally ridged; pronotum exceedingly short, strongly waved and ridged; mesonotum longer, but not twice as long as pronotum and vertex together, tricarinate; abdomen moderately robust; tegmina less than twice as long as greatest breadth, costal margin distinctly waved, moderately but distinctly broadened towards apices, which are rounded, claval vein not reaching apex; wings a little shorter and broader than tegmina; posterior tibiæ unarmed.

Allied to the genus *Kirbyana* from Ceylon.

3184. *Commolenda deusta*, *Dist. A. M. N. H.* (8) viii, p. 741 (1911).

Vertex, pronotum, mesonotum, face, and sternum fuscous brown; legs ochraceous; abdomen black, the apical area and narrow segmental margins ochraceous; wings hyaline, the veins

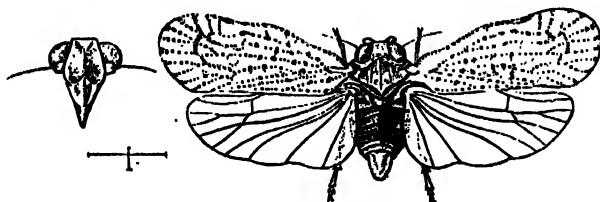


Fig. 23.—*Commolenda deusta*.

thickly covered with small dark granules, basal half with numerous small fuscous spots, of which the largest one is above the clavus, on apical half several waved fuscous lines, the apices of the apical veins also fuscous; wings hyaline, the veins darker.

Length excl. tegm. 3; exp. tegm. 11 millim.

*Hub.* Central India (*Brit. Mus.*).

A single specimen thus labelled is the only one that I have seen of this species.

### Genus **CANEIRONA**.

*Caneirona*, *Dist. Trans. Linn. Soc. Lond., Zool.* 1915.\*

Type, *C. maculipennis*, *Dist.*, from the Seychelles.

*Distribution.* Seychelle Islands and Southern India.

Vertex about as broad as long, the lateral margins strongly carinate, the anterior margins with a short central spine (sometimes almost obsolete), the lateral angles also shortly spinose

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\* The description of this genus is now in course of publication by the Linnean Society of London, in a paper devoted to the Homoptera of the Seychello Islands.

and distinctly extending beyond eyes; face longer than greatest breadth, widened behind eyes towards clypeus, anterior margin more or less truncate, posterior margin angularly concave and with an ocellus on each side, the lateral margins reflexed, and with a strong central longitudinal ridge; clypeus much shorter than face, centrally ridged, laterally reflexed; rostrum long, passing the posterior coxæ; pronotum very short, posteriorly angularly concave; mesonotum about twice as long as vertex and pronotum together, tricarinate; abdomen moderately robust; tegmina twice as long as greatest breadth, gradually widened towards apex, costal margin distinctly waved, apices rounded, claval vein not reaching apex, apical areas distinctly delineated; wings shorter than tegmina, the broadest areas of each about equal in width, with short transverse veins on the disk; posterior tibiæ unarmed.

3185. *Caneirona indica*, sp. n.

Head, pronotum, and mesonotum ochraceous, the pronotum and carinations on vertex and mesonotum much paler, the lateral areas of the mesonotum fuscous brown; abdomen above piceous, anal appendage ochraceous; face, sternum, and legs ochraceous; abdomen beneath piceous, with the segmental margins distinctly

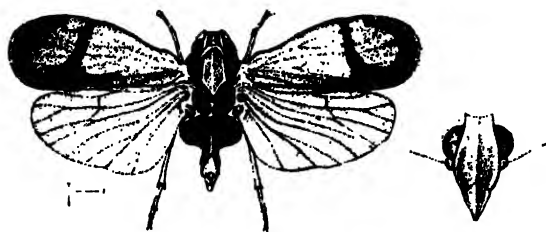


Fig. 24.--*Caneirona indica*.

ochraceous; tegmina stramineous, the apical area more ochraceous, apical and inner margins and a transverse fascia before apical area dark ochraceous, with blackish spots, a series of small pale spots on apical margin; wings very pale fuliginous with the veins darker; anterior margin of face concavely truncate; other structural characters as in generic diagnosis.

Length excl. tegm. 3; exp. tegm. 9 millim.

*Hab.* South India; Kodaikanal (*T. V. Campbell*).

Genus **PARAMICRIXIA.**

*Paramicrixia*, *Dist. A. M. N. H.* (8) viii, p. 742 (1911).

Type, *P. diaphana*, *Dist.*

*Distribution.* Bengal.

Head much shorter than the anterior margin of the pronotum,

vertex short and narrow, a little widened anteriorly, the apices of the lateral margins prominent; face moderately long and narrow, gradually widening to clypeus, the lateral margins strongly ridged; clypeus shorter than face, centrally ridged; pronotum short but broad, centrally ridged, the lateral angles distinctly spined; mesonotum about as long as pronotum and vertex together, tricarinate, the central carination straight, the sublateral ones more or less curved; abdomen short and broad; legs somewhat slender, posterior tibiæ not spined; tegmina and wings hyaline; tegmina only slightly more than twice as long as broad, the apex subconically rounded, costal membrane large and distinct, at its apex and beneath stigma is a somewhat rounded cell, its inner margin connected by sinuate transverse veins to the posterior margin near claval apex, three apical cells beyond stigma and two cells caused by vein-bifurcation on apical margin; wings about as broad as but shorter than tegmina, two apical cells caused by vein-bifurcation.

This peculiar genus finds an ally in the Mexican *Micrixia*, Fowl.

3186. *Paramicrixia diaphana*, *Dist. A. M. N. H.* (8) viii, p. 742 (1911).

Body above bronzy black; lateral margins of vertex testaceous; body beneath black; apex of clypeus, rostrum, basal area of abdomen, and the femora more or less ochraceous, tibiæ piceous; lateral margins of face testaceous, a little greyish before clypeus;

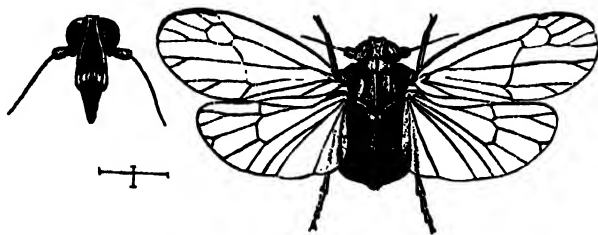


Fig. 25.—*Paramicrixia diaphana*.

tegmina and wings hyaline and unmarked, save by the dark venation and the very narrow piceous margins, the margin at the stigmatal area is slightly more pronounced.

Length excl. tegm. 3; exp. tegm. 9 millim.

*Hab.* Bengal (*Brit. Mus.*).

The British Museum possesses a single specimen of this interesting species.

Genus **MUNDOPA**. (Vol. III, p. 263.)3187. **Mundopa vagans**, *Dist. A. M. N. H.* (8) viii, p. 743 (1911).

Vertex, pronotum, and mesonotum black, abdomen above pale piceous with the segmental margins paler; face black, the lateral margins paler; clypeus black; sternum and abdomen beneath ochraceous with piceous suffusions; legs ochraceous, femora more or less suffused with piceous; tegmina fuscous brown, the veins darker, the stigma piceous with its basal margin greyish white,

Fig. 26.—*Mundopa vagans*.

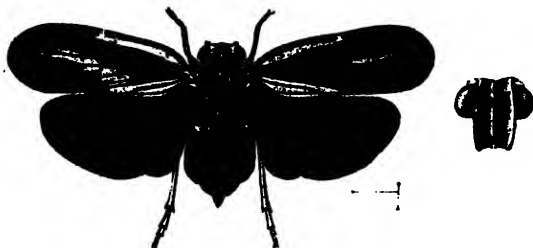
before the apical area a series of about four discal elongate, very obscure greyish-white spots; wings fuscous brown, the veins darker; vertex with the lateral margins amplately and apically subacute; face longer than broad, the lateral margins laminately raised and with a distinct basal ocellus.

Length excl. tegm.  $2\frac{1}{2}$ ; exp. tegm. 8 millim.

*Hab.* Ceylon; Galle (*T. Bainbrigge Fletcher, Brit. Mus.*).  
Calcutta (*Annandale, Ind. Mus.*).

3188. **Mundopa campbelli**, sp. n.

Body above black; lateral areas to vertex and posterior margin to pronotum, reddish-brown; a pale spot on each side of abdomen near base; body beneath imperfectly seen in unique carded

Fig. 27.—*Mundopa campbelli*.

specimen; face black, its lateral margins reddish-ochraceous; legs pale ochraceous; tegmina fuscous brown, the costal membrane, claval area, and discal suffusions bright ochraceous; posterior wings fuscous, the venation darker; vertex of head



with the anterior angles distinctly spinous before eyes; anterior margin of face truncately sinuate, its lateral margins strongly ridged and with a distinct central longitudinal carina; clypeus undeterminate in unique carded specimen.

Length excl. tegm. 3; exp. tegm. 11 millim.

*Hab.* South India; Kodaikanal (*T. V. Campbell*).

**3189. *Mundopa regina*, Dist. A. M. N. II. (8) viii, p. 743 (1911).**

Head and thorax black; head somewhat greyishly tomentose; vertex and pronotum with the lateral and basal margins testaceous; abdomen above dark testaceous; face black, more or less greyishly tomentose, the anterior and lateral margins testaceous; body beneath piceous, the legs fuscous; tegmina pale piceous, the veins black, the basal area obliquely cinnamomeous, the costal membrane piceous, the costal and apical margins greyishly tomentose, a short discal linear streak before the apical area greyish brown; wings pale piceous, the veins black; lateral margins of the vertex amply raised and apically subacute; face elongate, the margins almost parallel, not posteriorly ampliate, with a central longitudinal ridge and the lateral margins strongly ampliate carinate, a distinct ocellus at its posterior margin; tegmina about twice as long as broad, costal margin with a distinct short concave situation slightly beyond middle.

Length excl. tegm. 3; exp. tegm. 11 millim.

*Hab.* Travancore (*Brit. Mus.*).

**3190. *Mundopa balteata*, Dist. A. M. N. II. (8) viii, p. 743 (1911).**

Vertex, pronotum, and mesonotum black; margins of vertex and pronotum testaceous; abdomen above pitchy brown; face, clypeus, and body beneath pitchy black; legs pale ochraceous; tegmina bronzy brown, crossed near middle by a transverse greyish-white fascia, before this fascia and beneath the costal membrane the colour is considerably paler than on the apical area; margins of vertex amply raised and apically subacute; face long and somewhat narrow, with a strong central ridge, lateral margins strongly ampliate carinate; mesonotum tricarinate.

Length excl. tegm. 3; exp. tegm. 8 millim.

*Hab.* Ceylon; Nalanda (*Green, Brit. Mus.*).

**3191. *Mundopa sita*, sp. n.**

Body above black, more or less greyishly pilose; lateral margins of vertex, anterior and posterior margins of pronotum, and basal area of abdomen more or less ochraceous; face black, the lateral margins ochraceous; body beneath black or blackish, the legs pale ochraceous; tegmina pale stramineous; basal cell, costal and apical margins, inner margin excluding base, two subapical transverse fasciæ, and two converging and less well-marked fascæ

beyond middle, piceous or fuscous-brown, stigma black with a large white spot at base; wings greyish white, subhyaline, the venation darker, especially on apical area, the apical margin also more or less broadly piceous; anterior angles of vertex distinctly

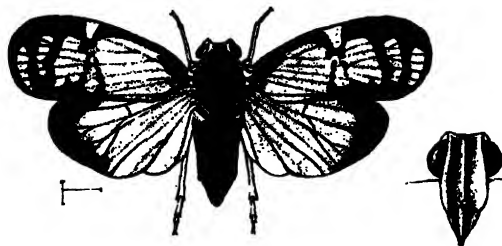


Fig. 28.—*Mundopa sita*.

produced in front of eyes; face about one and a half times longer than broad, both face and clypeus distinctly longitudinally ridged, ocellus near posterior margin of face, distinct.

Length excl. tegm. 3; exp. tegm. 9 to 10 millim.

*Hab.* South India; Kodaikanal (*T. V. Campbell*).

Genus **BORYSTHENES** to replace *Barma*. (Vol. III, p. 266.)

*Borysthenes*, *Stål*, *Hem. Afric.* iv, p. 165 (1866).

*Barma*, *Dist.* vol. iii, p. 266.

I had overlooked this genus of Stål, as he originally described it in his 'Hemiptera Africana' without giving type or locality. He, however, subsequently referred to it, giving *Cixius finitus*, Walk., as the type, a species which at the time I said must also be included in *Barma*.

**BORYSTHENES DIVERSA.**

*Barma diversa*, *Dist.* vol. iii, p. 266.

3192. **Borysthenes strigipennis**, *Dist. A. M. N. H.* (8) viii, p. 744 (1911).

Head, pronotum, mesonotum, body beneath, legs, and base of abdomen above, ochraceous, more or less thickly greyishly tomentose, apical half of abdomen above a little darker; tegmina very pale ochraceous, the veins darker, and between many of the veins the colour is much darker ochraceous; wings pale fuliginous, the veins darker; vertex with a transverse impression between the eyes, the disk foveate and the lateral margins strongly carinate, its apex, seen from above, having the appearance of acute apical angles; mesonotum with three longitudinal ridges.

Length excl. tegm. 3; exp. tegm. 10-11 millim.

*Hab.* Sikkim; Kurseong (*Lynch, Ind. Mus.*).

Allied to *B. diversa*, Dist., from which it differs by the lesser and differently arranged macular markings of the tegmina, the more concave face, and less developed central ridge on same, &c.

3193. *Borysthenes suknanicus*, Dist. *A. M. N. H.* (8) viii, p. 744 (1911).

Body above fuscous brown, more or less greyishly tomentose, the head, pronotum, and mesonotum almost entirely suffused; the abdominal segmental margins distinctly paler; head beneath, sternum, and legs ochraceous; abdomen beneath piceous, somewhat greyishly tomentose; tegmina creamy white, with fuscous-brown markings, of which there are two elongate spots in costal membrane, two smaller streaks beneath them (one linear, the other curved), beyond middle more completely fuscous brown, enclosing the following creamy-white markings: two elongate spots, an outer rounded, a more quadrate costal spot, and a curved subapical fascia; wings creamy-white, the veins fuscous brown, with suffusions of the same colour at apex, disk, and costal margin, the posterior marginal area is also faintly suffused

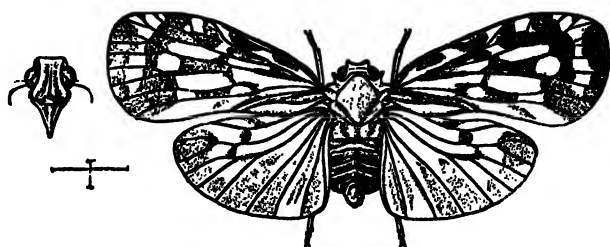


Fig. 29.—*Borysthenes suknanicus*.

with pale fuscous; anterior angles of vertex prominent and robust, vertex transversely carinate between the eyes; mesonotal carinations obscured by very thick tomentosity; tegmina very broad, their maximum breadth greater than that of wings; face with a central longitudinal ridge, its lateral margins concavely sinuate, slightly convexly rounded before clypeus.

Length excl. tegm.  $3\frac{1}{2}$ ; exp. tegm.  $10\frac{1}{2}$  millim.

*Hab.* Sikkim; Sukna, 500 feet (*Annandale*).

Genus **BRIXIA**. (Vol. III, p. 269.)

3194. *Brixia plagosa*, Dist. *A. M. N. H.* (8) viii, p. 745 (1911).

Vertex, pronotum, mesonotum, and abdomen above piceous; face, body beneath, and legs brownish ochraceous; tegmina pale bright ochraceous, the veins a little darker, stigma greyish brown,

three transverse series of somewhat indistinct silvery spots more or less margined with castaneous, the first short and strongly oblique near base, the second longest and slightly oblique near middle, the third short and discal before apical area, which is somewhat pale brownish and is inwardly marked by an obscure, rounded, narrow, greyish fascia, margins of tegmina narrowly pale castaneous and with the following castaneous spots: three on costal margin before stigma, the third longest, a larger spot beyond stigma, a large spot on inner margin a little beyond claval apex, and a smaller one at apex of claval vein, a short transverse discal paler spot before apical margin; wings very pale fuliginous; face narrowing to apex, but not prominently compressed between the eyes, the lateral margins strongly carinate, and with a distinct medial ridge and basal ocellus; tegmina about twice as long as broad.

Length excl. tegm.  $4\frac{1}{2}$ ; exp. tegm. 14 millim.

Hab. Sikkim; Kurseong, Sukna (*Annandale*).

3195. *Brixia inornata*, *Dist. A. M. N. H.* (8) viii, p. 745 (1911).

Head, pronotum, and mesonotum dark castaneous; abdomen castaneous, with strong greyish tomentum; face, sternum, and legs pale brownish ochraceous; abdomen beneath castaneous; tegmina pale greyish brown, immaculate except for some very small and obscure pale spots on the apical margin; the veins strongly fuscous brown, the stigma ochraceous, wings obscure greyish, the veins darker; face long and narrow, strongly narrowed between the eyes, the lateral margins very strongly carinate; mesonotum tricarinate; tegmina more than twice as long as broad.

Length excl. tegm. 5; exp. tegm.  $16\frac{1}{2}$ –17 millim.

Hab. Sikkim; Kurseong (*Annandale*).

This species is to be recognized by the strongly darkly veined, but not maculate or fuscate tegmina. Dr. Annandale captured two specimens of this distinct species.

3196. *Brixia elongata*, *Dist. A. M. N. H.* (8) viii, p. 746 (1911).

Body above black or piceous; face black, the lateral margins brownish ochraceous; sternum and legs brownish ochraceous; abdomen beneath black, anal appendages brownish ochraceous; tegmina pale brownish ochraceous, the veins darker and minutely setosely maculate, considerably suffused with fuscous brown markings, of which the principal ones are: a broad transverse basal fascia followed by an elongate spot on costal membrane, a broad transverse fascia before middle which encloses a small pale spot on costal membrane, the stigma and more or less the whole apical area, on which there are some obscure greyish spots, the apices of the apical veins are also shortly greyish, a greyish marginal spot a little beyond claval apex;

wings pale fuliginous, the veins darker; tegmina long and narrow, nearly three times as long as broad; face long and narrow, compressed between the eyes.

Length excl. tegm. 4; exp. tegm. 14–15 millim.

*Hab.* Ceylon; Horton Plains, Pattipola (*Green, Brit. Mus.*).

The salient and most distinctive character of this species is found in the long and narrow tegmina.

3197. *Brixia variolosa*, *Dist. A. M. N. H.* (8) viii, p. 746 (1911).

Body piceous; lateral margins of mesonotum brownish ochraceous; posterior margins of abdominal segments greyish white; sternum and legs brownish ochraceous; tegmina fuscous brown, with numerous pale markings either ochraceous or greyish white, of which the principal ones are a transverse fascia a little beyond base, two contiguous transverse irregular fasciæ near middle, the innermost darker and more ochraceous, basal and inner margins of stigma, beneath which are seven pale spots followed by a more ochraceous spot near claval apex, on apical area three clusters of pale spots; wings fuliginous, the veins darker; face long, much

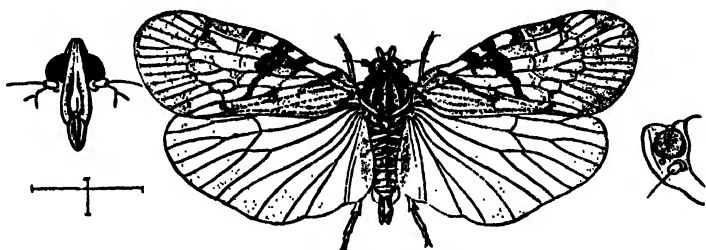


Fig. 30.—*Brixia variolosa*.

narrowed between the eyes, the lateral margins strongly carinate or ridged; tegmina a little more than twice as long as greatest breadth, the costal margin distinctly sinuate; mesonotum tricarinate.

Length excl. tegm. 5; exp. tegm. 15 millim.

*Hab.* Sikkim; Kurseong (*Ammandale*).

The sinuation of the costal margin of the tegmina, near the base, is a distinctive character of this species.

3198. *Brixia geometrina*, *Dist. A. M. N. H.* (8) viii, p. 746 (1911).

Body above dark castaneous brown; apical angles of vertex, margins and carinations to pro- and mesonota, lateral margins of abdomen above, body beneath, and legs ochraceous; tegmina semi-opaque, greyish white, margins very narrowly, and the

stigma ochraceous, an oblique basal fascia, a transverse spot in costal area, an irregular spot in clavus, a broad transverse fascia before middle, irregular subapical suffusions, a central transverse spot near apex and the apical margin fuscous, the broad transverse fascia contains two small pale spots, and the apices of the apical veins are distinctly ochraceous; wings pale subhyaline with the venation fuscous; tegmina with the costal margin near base slightly sinuate; face elongate, much narrowed between the eyes.

Length excl. tegm. 5; exp. tegm. 17 millim.

*Hub.* Ceylon; Pattipola (*Green, Brit. Mus.*).

Allied to the previous species, *B. variolosus*, by the less sinuate costal margin near base.

### Subfamily TROPIDUCHINÆ. (Vol. III, p. 272.)

#### Genus DOLIA.

*Dolia*, *Kirk. Haw. Sugar Plant. Assoc. Bull.* iii, p. 95 (1907);

*Melich. Monogr. Tropiduch.* p. 134 (*Verh. Ver. Brinn*, 1914).

*Hiracia*?, *Dist.* (vol. iii, p. 273).

In enumerating *Hiracia walkeri*, Sign., which I had not seen, I added that it "may or may not be strictly congeneric." Kirkaldy promptly proposed the new generic name *Dolia*, and Melichar has now given a fuller generic description.

#### DOLIA WALKERI.

*Hirachia walkeri*, *Sign.* (vol. iii, p. 274).

#### Genus TAMBINIA. (Vol. III, p. 276.)

##### 3199. *Tambinia verticalis*, sp. n.

Body above pale virescent; vertex of head and the inter-

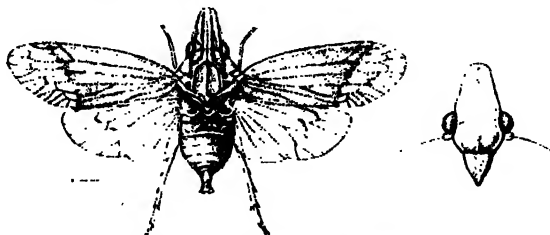


Fig. 31.—*Tambinia verticalis*.

stices between the carinations of pronotum testaceous; body

beneath and legs ochraceous; tegmina virescent, about apical third obliquely subhyaline, the defining line between the two areas more or less well defined and dark castaneous; wings creamy-white; vertex of head considerably longer than broad, moderately narrowed towards apex, which is roundly truncate, with a strong central longitudinal ridge, the lateral margins carinately recurved; pronotum centrally and marginally ridged; mesonotum tricarinate; posterior tibiæ armed with two spines.

Length excl. tegm. 5; exp. tegm. 14 millim.

*Hab.* S. India; Coorg, Santikoppa (*T. Bainbrigge Fletcher*); S. Kanara, Kasargode (*T. V. R.*).

### 3200. *Tambinia rubromaculata*, sp. n.

Pale virescent; vertex of head, pronotum, and tegmina finely spotted with testaceous red; body beneath and legs paler and more ochraceous in hue; vertex of head distinctly longer than broad and narrowed to apex, centrally and laterally carinate, less narrowly elongate than in the preceding species; face shorter and broader than in *T. verticalis*, tegmina also paler in hue and the subapical oblique line of transverse veins concolorous, not castaneous.

Length incl. tegm.  $7\frac{1}{2}$  millim.

*Hab.* Ceylon; Kandy (*E. E. Green*), Weligama (*T. Bainbrigge Fletcher*).

## Genus **ANTABHOGA**.

*Antabhoga*, *Dist. A. M. N. H.* (8) ix, p. 185 (1912).

Type, *A. gardineri*, *Dist.*

*Distribution.* Laccadive Islands.

Head (including eyes) narrower than pronotum, vertex very short and broad, conically rounded in front, the anterior margin strongly upwardly ridged, finely centrally carinate; face longer than broad, a little widened towards clypeus, both strongly centrally carinate, lateral margins of face upwardly ridged; pronotum a little longer than vertex, posterior margin strongly subangularly emarginate, distinctly centrally carinate, anterior margin carinately ridged; mesonotum longer than vertex and pronotum together, centrally tricarinate, the lateral carinations united anteriorly; abdomen moderately broad and short; posterior tibiæ with three spines; tegmina about or nearly three times as long as broad, costal membrane with numerous oblique veins, a transverse, rounded series of subapical veins enclosing short apical cells, and a nearly straight series of transverse veins beyond middle enclosing narrow elongate subapical cells.

Allied to *Epora*, Walk., but differing in the structure of the face and vertex and in the arrangement of the cells to the tegmina.

3201. *Antabhoga gardineri*, *Dist. A. M. N. H.* (8) ix, p. 185 (1912).

Almost uniformly brownish ochraceous; wings fuliginous; the carinations and carinate margins to the head and thorax above distinctly paler in parts; extreme costal and apical

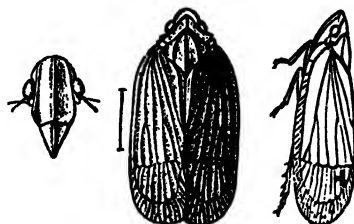


Fig. 32.—*Antabhoga gardineri*.

margins of tegmina ochraceous, the apical area also slightly mottled with ochraceous; legs ochraceous; other characters as in generic diagnosis.

Length incl. tegm. 7-8 millim.

*Hab.* Laccadive Islands; Minikoi (*Gardiner, Brit. Mus.*).

Genus **STIBORUS**. (Vol. III, p. 280.)

Melichar, *Monogr. Tropiciduch.* p. 43 (*Verh. Ver. Brünn, 1914*), has very much amplified his description of this genus.

**STIBORUS VIRIDIS**. (Vol. III, p. 280.)

*Stiborus viridis*, *Melich. Monogr. Tropiciduch.* p. 44, fig. 13 (*Verh. Ver. Brünn, 1914*).

Melichar has now figured his species (here reproduced). It

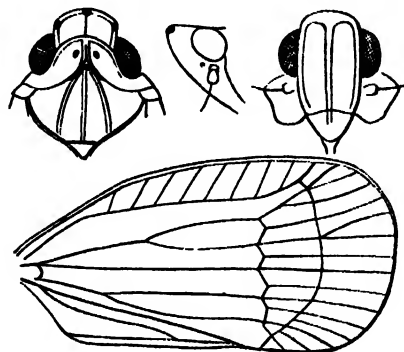


Fig. 33.—*Stiborus viridis*.

must be a rare form as I have still no example in any of my collections from Ceylon.



Genus **STACOTOIDES**, nov.Type, *S. typicus*, Dist.*Distribution.* South India.

Head considerably longer than broad, prominently projecting beyond eyes, vertex moderately angulate at apex; face about twice as broad as long, amplified towards clypeus, with a distinct central longitudinal ridge; clypeus short, scarcely longer than one-third the length of face; pronotum very short, anterior margin angularly produced, posterior margin angularly concave; mesonotum about as long as head and pronotum together, tricarinate, the central carination prominent; abdomen of ♀ short and broad; legs elongate, posterior tibiæ with two spines, basal joint of posterior tarsi long; tegmina amplified towards apex, costal membrane without transverse veins, three series of longitudinal cells, two basal, moderately long and broad, four central, long and somewhat narrow, nine apical, clavus short, especially the claval vein; wings about half the length of tegmina and much narrower, two discal and four apical cells.

In this enumeration the genus will follow *Stacota*, Stål (vol. iii, p. 281).

3202. *Stacotoides typicus*, sp. n.

Vertex of head brownish ochraceous with two posteriorly converging black lines, the base testaceous, eyes black; pronotum and mesonotum dark castaneous, the margins of the first and the central carination to the latter distinctly ochraceous; face and cheeks ochraceous, the interstices between the facial

Fig. 34.—*Stacotoides typicus*.

ridges a little darker; abdomen above (♀) black, more castaneous near base, body beneath imperfectly seen in unique carded specimen; legs ochraceous, posterior femora castaneous, tarsal claws black; tegmina and wings subhyaline, the venation piceous, extreme bases flavescens, outwardly fuscous brown.

Length excl. tegm. ♀ 3; exp. tegm. 9½ millim.

*Hab.* South India; Kodaikanal (*T. V. Campbell, Brit. Mus.*).

Genus **EPORA.** (Vol. III, p. 282.)

3203. *Epora montana*, *Dist. A. M. N. II.* (8) ix, p. 185 (1912).

Body and legs ochraceous; tegmina pale ochraceous; wings hyaline with the veins pale ochraceous; vertex of head with a distinct central longitudinal ridge; face elongate, centrally and longitudinally ridged; tegmina with the costal membrane somewhat closely, obliquely, transversely veined, apical and subapical elongate narrow cells, the apical cells the longer of the two.

Length excl. tegm. 8; exp. tegm. 17 millim.

*Hab.* Nilgiri Hills (*Hampson*). Bengal; Calcutta (*Brit. Mus.*).

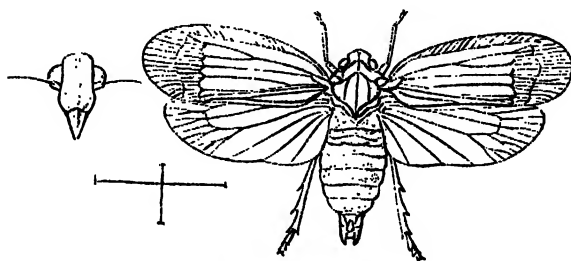


Fig. 33.—*Epora montana*.

Allied to *E. subtilis*, Walk., but readily distinguished from that species by the size and shape of the apical and subapical cells to the tegmina.

In fresh specimens the ochraceous coloration will be replaced by a virescent hue, as appears in a specimen recently received from Bengal.

Melichar, *Monogr. Tropiciduch.* p. 51 (*Verh. Ver. Brünn*, 1914), has placed this species as a synonym of *E. subtilis*, Walk. Now that I have figured both these species, and the differential characters are detailed (*supra*), the distinction will be readily appreciated.

Genus **EPORIELLA.**

*Eporiella*, *Melich. Monogr. Tropiciduch.* p. 52 (*Verh. Ver. Brünn*, 1914).

Type, *E. ceylonica*, Melich.

*Distribution.* Ceylon.

Melichar has founded this genus as near *Epora* and on a Ceylonese species contained in the Hofmuseum of Vienna. He has not figured it, and owing to the present European war there is no opportunity for my seeing it. I merely therefore call attention to his description.

3204. *Epioriella ceylonica*, Melich. *Monogr. Tropiduch.* p. 52 (*Verh. Ver. Brünn*, 1914).

*Hab.* Ceylon.

### Genus EODRYAS.

*Epora*, Melich. (nec Walk.) *Hom. Faun. Ceylon*, p. 48 (1903).

*Eodryas*, Kirk. *Haw. S. Pl. Assoc. Bull.* iii, p. 93 (1907); Melich. *Monogr. Tropiduch.* p. 52 (*Verh. Ver. Brünn*, 1914).

Type, *E. melichari*, Dist.

*Distribution.* Brit. India, Ceylon.

Melichar originally described the type of this genus under the generic name of *Epora*, and mistook the species to which he referred as *E. subtilis*, Walk. I (vol. iii, p. 283) described the principal generic differences appertaining to that species, which I was compelled to rename as Gen. ? *melichari*. Kirkaldy (*supra*), without any description, referred to it under a new name *Eodryas*. Melichar (*supra*) has now adopted that name.

### EODRYAS MELICHARI.

Gen. ? *melichari* (vol. iii, p. 285).

*Epora subtilis*, Melich. (nec Walk.), *Hom. Faun. Ceylon*, p. 48, t. 1, f. 11 a-e (1903).

*Eodryas melichari*, Melich. *Monogr. Tropiduch.* p. 53, fig. 14 (*Verh. Ver. Brünn*, 1914).

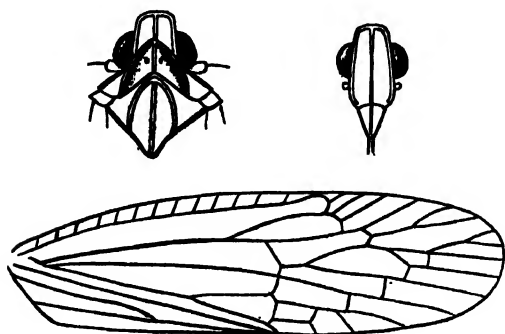


Fig. 36.—*Eodryas melichari*.

*Hab.* Bombay, Ceylon.

I have not seen the species but reproduce Melichar's figure.

**BARUNOIDES** to replace **BARUNA**. (Vol. III, p. 283.)

*Baruna*, *Dist.* (vol. iii, p. 283), nom. præocc.

*Barunoides*, *Dist. A. M. N. H.* (8) ix, p. 471 (1912), n. nom.;  
*Melich. Monogr. Tropiduch.* p. 58 (*Verh. Ver. Brünn*, 1914),  
 part.

*Melichar* (*supra*) has sunk *Bierman's* genus *Catulloides* (*Not. Mus. Leiden*, xxxiii, p. 21, 1911) as a synonym of the above. This, however, cannot be maintained. Both *Bierman's* description and figure define the costal membrane of the tegmina as possessing numerous transverse veins, whereas my description and figure of *Barunoides* clearly show the contrary, "costal membrane without transverse veins." Moreover, there are other differences, and *Bierman's* genus is distinct and must stand, unless it should be subsequently proved to be a synonym of *Kusuma*, *Dist.* It is found in Java and Sumatra and not as yet recorded from British India.

**BARUNOIDES ALBOSIGNATA.**

*Baruna albosignata* (vol. iii, p. 284).

**Genus EILITHYIA.**

*Eilithyia*, *Dist. A. M. N. H.* (8) ix, p. 184 (1912).

Type, *E. insularis*, *Dist.*

*Distribution.* Narkondam Island.

Vertex subquadrate, the margins strongly ridged, its apex somewhat moderately angularly rounded; eyes longer than broad, posteriorly projecting over the anterior angles of the pronotum; face longer than broad, lateral margins ridged, a little concave, moderately widened and angulate before clypeus, centrally strongly carinate, the carination bifurcate anteriorly; clypeus strongly centrally carinate, its lateral margins not carinate; pronotum strongly convex anteriorly, concave posteriorly, centrally strongly carinate, its lateral angles posteriorly subacute, anterior margin distinctly carinate; mesonotum tricarinate; posterior tibiae with two spines, one before and the other behind middle; tegmina about two and a half times as long as broad, costal margin convexly rounded, apex conically rounded, costal membrane broad, not veined, three longitudinal cells from base to beyond middle, beyond which the venation is close and longitudinal and a series of transverse veins delimitates a close series of apical and antepical cells, claval vein extending to about middle of claval area; wings shorter but scarcely broader than tegmina, posterior margin strongly sinuate, a series of disconnected transverse veins before apical area.

Somewhat allied to *Tambinia*, from which it differs in the shape of vertex and face, and in the position of the longitudinal veins to tegmina, the first not being near costal margin as in *Tambinia*.

3205. *Eilithya insularis*, *Dist. A. M. N. H.* (8) ix, p. 184 (1912).

Body and legs ochraceous; tegmina very pale ochraceous; wings hyaline with the venation pale ochraceous; abdomen,

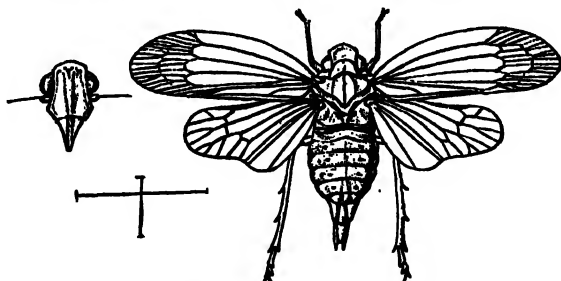


Fig. 37.—*Eilithya insularis*.

centrally dorsally ridged, with the spiracles very distinct; anal appendage in female long, slender, apically bifurcate; other characters as in generic diagnosis.

Length excl. tegm. ♀  $7\frac{1}{2}$ ; exp. tegm. 17 millim.

*Hab.* Narkondam Island.

#### Genus **SOGANA.**

*Sogana*, *Matsum. Ann. Mus. Hung.* xii, p. 268 (1914) *Melich. Monogr. Tropiduch.* p. 113 (*Verh. Ver. Brünn*, 1914).

Type, *S. hopponis*, Matsum., from Formosa.

*Distribution.* Tenasserim, Mentawai, Formosa.

3206. *Sogana extrema*, *Melich. Monogr. Tropiduch.* p. 115, fig. 28 (*Verh. Ver. Brünn*, 1914).

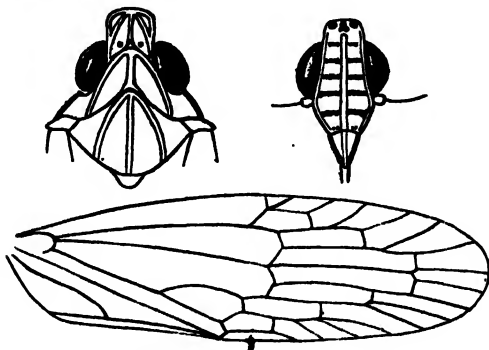


Fig. 38.—*Sogana extrema*.

I reproduce the figure of this species only, for the following reasons:—*Sogana* was described by Matsumura, who placed it in

the subfam. Lophopinæ. Melichar, however, places it in the Tropiduchinæ, which appears to me to be its better position. I have, however, seen no example of the genus and therefore give Melichar's figure and follow him in his divisional location.

Subfamily ACHILINÆ. (Vol. III, p. 286.)

Genus **GORDIA**.

*Gordia*, *Melich. Hom. Faun. Ceylon*, p. 43 (1903).

Type, *G. oculata*, Melich.

*Distribution*. Ceylon.

Vertex moderately short and broad, tricarinate, the apex truncate; face distinctly longer than broad, anteriorly truncate and moderately produced above eyes, distinctly centrally carinate, foveately depressed for about upper third, the lateral margins carinate, slightly convex and narrowed towards clypeus, which is short with its lateral margins carinate; pronotum short, slightly shorter than vertex, tricarinate, the posterior margin concavely sinuate; mesonotum a little longer than vertex and pronotum together, tricarinate; abdomen short and robust; legs of moderate length; tegmina about three times as long as broad, the costal margin straight till about end of costal membrane and then distinctly sinuate at commencement of apical area, posterior margin strongly sinuate at about end of clavus, three longitudinal veins very prominent on disk; membrane shorter and broader than tegmina.

3207. *Gordia oculata*, *Melich. Hom. Faun. Ceylon*, p. 43 (1903).

Vertex, pronotum and mesonotum black, the carinations ochraceous, posterior mesonotal angle ochraceous; abdomen above piceous or black, the basal area somewhat testaceous; head



Fig. 39.—*Gordia oculata*.

beneath and sternum black; face with a small spot on each side near anterior margin and a broad central fascia, apex of the clypeus and the abdomen beneath pale ochraceous; legs ochraceous, more or less shaded with black; tegmina fuscous brown for about two-thirds their length, thickly speckled and veined with ochraceous, with a distinct piceous or black spot on

disk near middle, two white spots near base of clavus and another a little beyond apex of clavus, apical third pale fuliginous, the veins thickly finely speckled with ochraceous; wings fuliginous.

Length excl. tegm.  $2\frac{1}{2}$ ; exp. tegm. 8 millim.

*Hab.* Ceylon; Peradeniya (Uzel, *Coll. Melichar*; *Green, Brit. Mus.*).

Previously I could only draw attention to this species (vol. iii, p. 294).

Genus **FAVENTIA**. (Vol. III, p. 286.)

*Faventia pustulata* (vol. iii, p. 287, fig. 135).

Add: *Hab.* Sikkim; Sukna (*Annandale*).

This is the first record of the species west of Tenasserim.

Genus **ROBIGALIA**, nov.

Type, *R. butleri*, Dist.

*Distribution.* South India.

Vertex of head broader than long, the anterior lateral angles acutely prominent, the lateral margins acutely reflexed; face much longer than broad, slightly widened towards clypeus, the lateral margins acutely reflexed; clypeus small, its lateral margins carinate; pronotum very much broader than long, its anterior margin angularly convex, its posterior margin concave, both margins distinctly ridged and also a central longitudinal ridge; mesonotum slightly longer than head and pronotum together, transversely depressed behind middle; tegmina attenuated posteriorly and passing abdominal apex, claval area prominent; legs elongated, first joint of posterior tarsi long.

3208. *Robigalia butleri*, sp. n.

Head, pronotum, and mesonotum greyish white; two large spots on mesonotum black; tegmina with margins of clavus

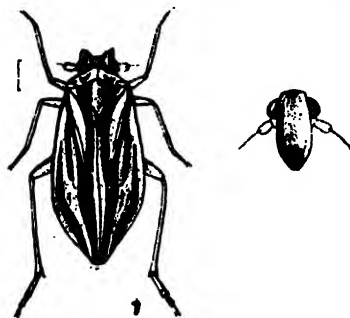


Fig. 40.—*Robigalia butleri*.

continued to apex, a submarginal fascia from about middle to apex, and a central linear line from claval margin to middle, black

## DEFERUNDA

or blackish, a black humeral linear spot; legs pale ochraceous; face pale ochraceous, its margins paler; clypeus black; structural characters as in generic diagnosis.

Length incl. tegm. 4 millim.

*Hab.* S. India; Kodaikanal (*T. V. Campbell*).

Named after Mr. E. A. Butler, who has kindly let me see all Dr. Campbell's captures.

## Genus DEFERUNDA.

*Deferunda*, *Dist. A. M. N. H.* (8) ix, p. 186 (1912).

Type, *D. stigmatica*, *Dist.*

*Distribution.* Bengal.

Vertex of head longer than breadth between eyes, prominently produced in front of eyes, slightly upturned apically, the lateral margins distinctly upturned, the disk depressed; face much longer than broad, distinctly produced before eyes, centrally and laterally carinate, distinctly foveate anteriorly; clypeus small, about half the length of face, the margins distinctly carinate; pronotum narrow, centrally tricarinate, the lateral angles moderately ampliate; mesonotum broad, tricarinate, considerably broader than long, the lateral angles subacute; abdomen broad, moderately robust; posterior tibiae unspined; tegmina about three times as long as broad, moderately angulate and then ampliate beyond clavus, claval vein about reaching claval apex, a distinct series of apical cells, beyond clavus a pronounced subquadrate cell, above and beyond which are a cluster of antepical cells; wings much broader and a little shorter than tegmina.

A genus to be placed near *Fuventia*, Stål, owing to the face being distinctly produced before eyes and the small clypeus.

3209. *Deferunda stigmatica*, *Dist. A. M. N. H.* (8) ix, p. 186 (1912).

Vertex and pronotum greyish white, the first with longitudinal black lines; mesonotum with three irregular transverse fasciae,

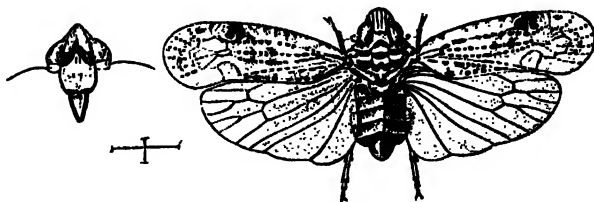


Fig. 41.—*Deferunda stigmatica*.

one at anterior margin, one near middle, and the third, which is strongly waved, behind middle; abdomen above piceous; face and clypeus greyish white, the former with a transverse sinuate black fascia before middle; sternum and legs more or less



ochraceous; abdomen beneath blackish, with the margins of the segments greyish white; tegmina with the basal two-thirds more or less ochraceous, the apical third greyish, the veins more or less minutely spotted or granulated with black, much less prominently so on apical third, a distinct carmine-red stigmatal spot, interiorly margined with black; wings fuliginous.

Length excl. tegm. 4; exp. tegm. 9 millim.

*Hub.* Bengal; Chapra (*Mackenzie, Brit. Mus.*).

Genus **VEKUNTA**. (Vol. III, p. 287.)

I followed Melichar, the founder of this genus (for I only revised his name *Temesa* which was preoccupied), in placing it in the Achilinae. Kirkaldy (*Haw. Sugar Plant. Assoc. Bull.* iii, p. 115, 1907) wrote "*Vekunta* is certainly an Issine and has nothing to do with Achilini." Subsequently (*Ann. Soc. Ent. Belg.* ii, p. 302, 1907) he stated that it is not an Issine but a Derbid! Pending further developments it may well be left in the place assigned it by Melichar and myself. Muir (*Rep. Exp. Stat. H. P. A. Bull.* xii, p. 37, 1913) states that Melichar placed it among the Cixiinae, but that is incorrect.

Genus **EPIRAMA**.

*Epirama*, *Melich. Hom. Faun. Ceylon*, p. 45 (1903) (*ante*, Vol. III, p. 294).

Type, *E. conspergata*, Melich.

*Distribution.* Ceylon.

3210. *Epirama conspergata*, *Melich. Hom. Faun. Ceylon*, p. 45 (1903).

Previously (vol. iii, p. 294) I could only refer to this genus

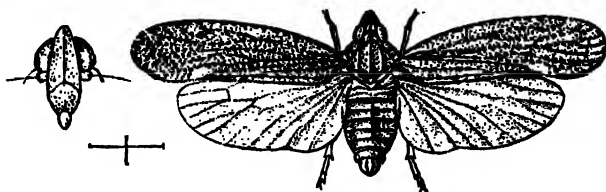


Fig. 42.—*Epirama conspergata*.

and species, not having seen examples. Since then by the kindness of Dr. Melichar I have been able to secure an illustration which is here produced.

Genus **PARATANGIA**.

*Paratangia*, *Melich. Hom. Faun. Ceylon*, p. 46 (1903) (*ante*, Vol. III, p. 294).

Type, *P. notata*, Melich.

*Distribution.* Ceylon.

3211. *Paratangia fimbriolata*, Melich. *Hom. Faun. Ceylon*, p. 47 (1903).

When I previously referred to this genus and species (vol. iii, p. 294) I had seen no examples. Since then Dr. Melichar has

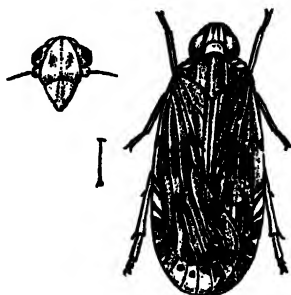


Fig. 43. — *Paratangia fimbriolata*.

kindly assisted me in procuring a figure of one species which is here reproduced.

Two others, *P. notata*, Melich. and *P. marginata*, Melich., have also been described, but I do not know them.

Genus **KINNARA**. (Vol. III, p. 289.)

*Kinnara fumata* (vol. iii, p. 289).

Add: *Hab.* S. India; Kodnikanal (*Campbell*).

3212. *Kinnara flavofasciata*, sp. n.

Vertex of head and pronotum flavescent; mesonotum black; abdomen above dull greyish-white; body beneath (imperfectly seen in carded specimen) and legs pale ochraceous; tegmina fuscous brown, the basal half darker, basal half of costal area flavescent; wings fuliginous with a slight opaline lustre: vertex of head with the lateral margins strongly carinate, their apical angles prominent; mesonotum obscurely tricarinate; lateral margins of face very strongly ridged.

Length excl. tegm. 3; exp. tegm. 10 millim.

*Hab.* S. India; Salem (*T. V. Campbell*).

3213. *Kinnara maculata*, *Dist. A. M. N. H.* (8) ix, p. 187 (1912).

Body above more or less castaneous brown, apex of the abdomen pale ochraceous; body beneath, legs, vertex and pronotum, more or less ochraceous; tegmina very pale ochraceous, subhyaline, with three prominent fuscous spots, one near base, another near end of subcostal area, and the third on disk a little beyond and above the apex of clavus, the apical marginal

area distinctly palely infuscate; wings hyaline, the veins palely fuscous, the anal posterior area adorned with opaline lustre.

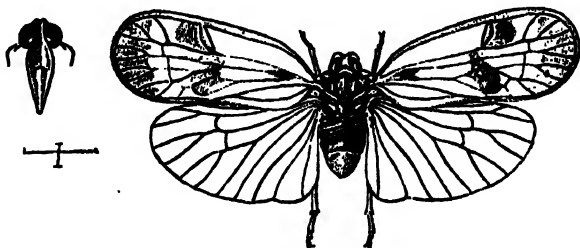


Fig. 44.—*Kinnara maculata*.

Length excl. tegm.  $2\frac{1}{2}$ ; exp. tegm.  $9\frac{1}{2}$ –10 millim.

*Hab.* Travancore; Maddathoray, west base of W. Ghats (*Annandale, Indian & Brit. Mus.*).

This species differs from *K. ceylonica*, Melich., in the narrower face, different colour and markings, etc.

3214. *Kinnara spectra*, *Dist. A. M. N. H.* (8) ix, p. 187 (1912).

Body and legs pale ochraceous; tegmina and wings subhyaline, uniformly greyish white; vertex short and broad, much narrower than pronotum, the disk concave, the margins strongly carinate; face narrowest between the eyes, amplified towards middle where it is subangulate, and then narrowed to clypeus.

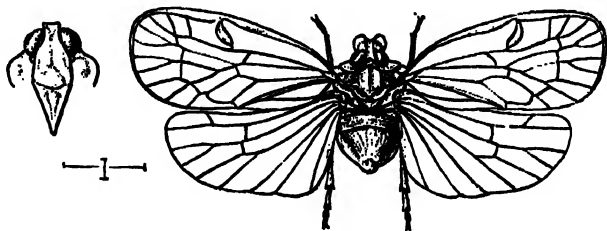


Fig. 45.—*Kinnara spectra*.

Length, excl. tegm. 3; exp. tegm. 11 millim.

*Hab.* E. Himalayas (*Brit. Mus.*).

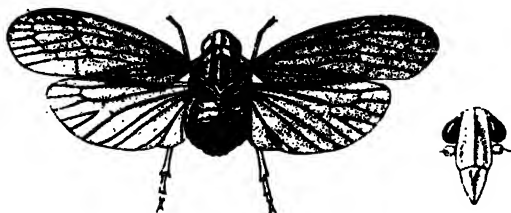
This species is to be separated from all the other species of the genus at present described by the uniformly pale and subhyaline tegmina and wings, and the subangulate amplification of the face.

Genus **MAGADHA**. (Vol. III, p. 290.)*Magadha flavisigna* (vol. iii, p. 291, fig. 138).Add: *Hab.* Darjiling, 6000 feet (*Brunetti, Ind. Mus.*).

A single specimen, labelled "At light in house."

Genus **USANA**. (Vol. III, p. 293.)3215. *Usana abdominalis*, sp. n.

Body above brownish ochraceous, apical half of abdomen black; body beneath and legs paler ochraceous; tegmina and wings pale tawny fuliginous, in wings the venation distinctly darker than in tegmina; head (including eyes) narrower than pronotum, vertex strongly tricarinate, a little narrowed anteriorly; face about half

Fig. 46. -*Usana abdominalis*.

as long again as clypeus, a little amplified posteriorly; clypeus with the lateral margins finely carinate, and with an incomplete central ridge; pronotum and mesonotum tricarinate; posterior tibiae with a small spine before middle.

Length excl. tegm. 3; exp. tegm. 11 millim.

*Hab.* Sikkim.Genus **AMBALANGODA**.*Ambalangoda*, *Dist. A. M. N. H.* (8) ix, p. 187 (1912).Type, *A. insignis*, *Dist.**Distribution.* Ceylon.

Vertex very slightly longer than broad, the lateral margins laminately raised and slightly projecting at their apices; eyes elongate, occupying the whole lateral margins of the vertex and continued backward beyond its base; face longer than broad, widened toward clypeus, the lateral margins sinuate and amplified ridged, centrally longitudinally carinate, before clypeus moderately concave; clypeus a little more than half the length of face, its lateral margins carinate, its disk somewhat tumid; pronotum very narrow, its lateral areas strongly obliquely recurved backward; mesonotum large, with the disk longitudinally raised, flattened and tricarinate; posterior tibiae not spined; tegmina

more than twice as long as broad, widened toward apex, costal margin distinctly sinuate near base, two transverse veins near middle, five or six anteapical cells separated from the apical cells by a curved series of transverse veins, the apical cells moderately long and narrow, the uppermost, before apex, oblique; wings a little shorter than tegmina, slightly more than twice as long as broad, two transverse veins near middle and a short angulate apical cell.

By the face slightly projecting before the eyes and the short clypeus, this genus is allied to *Kosalya*, Dist., from which it differs by the totally different structure of the face and the non-spined posterior tibiæ.

3216. *Ambalangoda insignis*, Dist. *A. M. N. II.* (8) ix, p. 188 (1912).

Vertex and pronotum ochraceous, mesonotum piceous with the longitudinal carinate disk ochraceous; abdomen piceous or black; face black, the ampliate margins brownish ochraceous and somewhat darkly maculate; clypeus brownish ochraceous, the margins darkly maculate near base and apex; sternum and legs dull ochraceous and more or less darkly maculate; tegmina for about half the length dull ochraceous with the veins darker, the

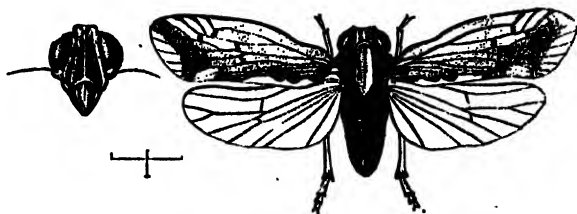


Fig. 47.—*Ambalangoda insignis*.

whole apical area more dull greyish, with a broad and ill-defined slightly curved fuscous fascia near the apical margin, the veins to the three upper subapical cells distinctly infuscated at the apices, clavus white, with some black spots at its upper margin and another at its apex; wings very pale fuliginous with the veins darker. Structural characters as in generic diagnosis.

Length excl. tegm. 3; exp. tegm. 9 millim.

*Hab.* Ceylon; *Ambalangoda* (*Green*).

3217. *Ambalangoda fasciata*, sp. n.

Body and legs brownish ochraceous; tegmina subhyaline, the veins setigerous, basal area (more or less), an oblique fascia extending from near middle of costal margin to inner apical angle,

and irregularly sized and shaped apical marginal spots, pale brownish-ochraceous; vertex slightly longer than broad, the lateral margins raised and projecting at their apices; face longer than broad, widened towards clypeus which is more than half the length of face; mesonotum with the disk longitudinally raised, flattened and tricarinate; posterior tibiae not spined; face slightly projecting before eyes.

Length excl. tegm. 5 millim.

*Hab.* Ceylon; Namunukuli (*E. E. Green*).

Genus **CARISTIANUS**, nov.

Type, *C. indicus*, Dist.

*Distribution.* Ceylon, India.

Head narrower than the pronotum, the vertex projecting before the eyes, moderately concave, centrally and laterally ridged, apex subtruncate, a little emarginate; face longer than broad, narrowed anteriorly, broadened before clypeus, the lateral margins convex, with a strong central longitudinal ridge; clypeus more than half as long as face, the lateral margins carinate, centrally longitudinally carinate; pronotum shorter than vertex, angularly emarginate at base, centrally carinate; mesonotum considerably longer than vertex and pronotum together, centrally tricarinate; legs slender, posterior tarsi with the basal joint elongate; tegmina about three times as long as breadth at base, distinctly amplified behind the clavus, costal membrane without transverse veins, apical cells five or six in number; wings shorter and considerably broader than tegmina, two distinct transverse veins on apical area.

3218. *Caristianus indicus*, sp. n.

Head and thorax above brownish ochraceous, lateral areas of pro- and mesonota dark castaneous; abdomen above fuscous



Fig. 48.—*Caristianus indicus*.

brown, the segmental margins pale ochraceous; head beneath and sternum piceous, lateral margins of the face spotted with

greyish white, the anterior margin of a similar colour; tegmina fuscous brown, rather more than the costal membrane creamy-white, some spots of the same colour on claval margin, the apical cells also banded with greyish white, and two small spots before apical area; wings fuliginous; structural characters as in generic diagnosis.

Length excl. tegm. 3; exp. tegm. 7 millim.

*Hab.* Ceylon; Peradeniya (*Green*). Sikkim; Sukna, 500 ft. (*Annandale*).

### Subfamily DERBINÆ. (Vol. III, p. 295.)

#### Genus PHENICE. (Vol. III, p. 296.)

*Sardis, Kirk. Rep. Exp. Stat. Haw. Plant. Assoc.* pt. ix, p. 426 (1906).

PHENICE MÆSTA. (Vol. III, p. 296, fig. 142.)

Add: *Hab.* Bengal; Pusa.

3219. *Phenice pallata*, *Dist. A. M. N. H.* (8) viii, p. 639 (1911).

Head and thorax above piceous, pronotum black; body beneath black; metasternum and legs stramineous; coxæ piceous; abdomen above black, spotted with ochraceous; tegmina dark fuscous, the costal area white, with large dark fuscous spots, the second from base largest and longitudinal, the others transverse, the inner area broadly and irregularly white, the fuscous extending through it to inner margin near base and before middle, two white spots on apical margin, the lowermost large, the upper one small, the apices of the veins on inner margin are fuscous; wings fuliginous, with the veins fuscous, the posterior marginal area suffused with white; antennæ ochraceous.

Length excl. tegm. 3; exp. tegm. 19 millim.

*Hab.* United Provinces; Kumaon District.

Allied to *P. mæsta*, Westw., but larger, markings of tegmina different, &c.

3220. *Phenice ferruginea*, *Dist. A. M. N. H.* (8) viii, p. 639 (1911).

Vertex of head and pronotum sordidly greyish; mesonotum fuscous brown, with the lateral and basal margins (the latter broadly), a central straight longitudinal carination, and a broader waved longitudinal fascia on each lateral area sordidly greyish or very pale virescent; abdomen above fuscous brown, the segmental margins black, with greyish spots; head beneath,

sternum, and legs ochraceous; abdomen beneath transversely fuscous and ochraceous; tegmina fuliginous, with the veins ferruginous, costal membrane with a distinct series of sordidly greyish spots, some more indistinct spots of the same colour on basal area, and three or four short greyish-white lines at apex, beyond the apex of costal membrane three or four short, transverse, ferruginous, waved, linear spots, and the whole area of the tegmen more or less obscurely mottled with greyish; wings fuliginous, the veins ferruginous; vertex rather broader than in most species of the genus and distinctly longitudinally grooved; second joint of antennæ not reaching apex of head; face rounded, narrow, not angularly, laminately projecting; clypeus a little longer than face; abdomen above with a strong central longitudinal ridge; scutellum centrally longitudinally compressed.

Length excl. tegm. 4-5; exp. tegm. 20-23 millim.

*Hab.* Travancore; Maddathoray and near Trivandrum (*Annandale*).

Allied to *P. superba*, Dist.

Genus **ZORAIDA**. (Vol. III. p. 300.)

3221. *Zoraida fletcheri*, n. nom.

*Zoraida variipennis*, Dist. *A. M. N. H.* (8) viii, p. 640 (1911) (nom. præocc.).

Body above shining fuscous brown; pronotum pitchy black; abdomen somewhat largely spotted with ochraceous; second joint of antennæ ochraceous, with its apex black; body beneath and legs pale bright ochraceous; tegmina hyaline, the veins

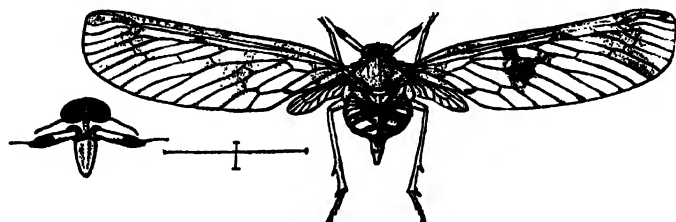


Fig. 49.—*Zoraida fletcheri*.

more or less ferruginous, costal membrane at extreme base and beyond middle to apex purplish red, with minute black spots, basal area, an irregular transverse central fascia, and a transverse fascia near apex dark fuliginous; wings hyaline, with the veins pale sanguineous; second joint of antennæ only a little shorter than head and thorax together; vertex narrow, somewhat tri-



# APPENDIX.—FULGORIDÆ.

angular; mesonotum obsolete tricarinate; abdomen with a central longitudinal ridge.

Length excl. tegm.  $3\frac{1}{2}$ ; exp. tegm. 22 millim.

Hab. Ceylon; *Madulaima* (T. Bainbrigge Fletcher).

3222. *Zoraida spectra*, Dist. A. M. N. H. (8) viii, p. 640 (1911).

Body pale ochraceous; legs stramineous; eyes black; tegmina and wings hyaline, the venation a little darker; second joint of antennæ pale ochraceous, about as long as head and thorax together; vertex very narrow; face very narrow, prominently longitudinally ridged; clypeus slightly longer than face; mesonotum obscurely tricarinate; posterior tibiæ distinctly spined beyond middle; tegmina about three times as long as greatest breadth, the apical margin subtruncate, the inner margin slightly dilated beyond clavus; wings short, extending a little beyond the clavus of tegmen.

Length excl. tegm. 3; exp. tegm. 18 millim.

Hab. N.W. India (*Brit. Mus.*).

Allied to *Z. gilva*, Dist., from Ceylon, but a smaller species, the tegmina less broadened, the venation darker, the apical veins also quite different, being much more strongly oblique in *gilva* than in *spectra*.

3223. *Zoraida histrionica*, Dist. A. M. N. H. (8) xiii, p. 417 (1914).

Vertex and pronotum pale ochraceous, the latter with two central oblique black lines; mesonotum pale brownish, with narrow margins and fasciate carinal markings pale ochraceous; scutellum purplish brown, with a central longitudinal greyish line; abdomen ochraceous, above thickly mottled with castaneous, beneath more or less broadly segmentally fasciated with that colour; sternum and legs ochraceous; tegmina hyaline, the venation fuscous, costal area flavescent, containing a piceous spot beyond middle and another near apex, apical margin narrowly piceous, and with a piceous spot at apex of clavus; wings slightly tinted with ochraceous; second joint of antennæ ochraceous, its apex testaceous, considerably larger than head and pronotum together; vertex triangular, slightly projecting beyond eyes; wings very small, about as long as apical margin of tegmina; face narrow, about as long as clypeus.

Length excl. tegm. 5; exp. tegm. 25 millim.

Hab. East Himalayas (*Brit. Mus.*).

This species is allied to *Z. ephemeralis*, Walk., from the Papuan Islands.

## Genus ZORAIDOIDES.

*Zoraidoides*, Dist. A. M. N. H. (8) xiii, p. 418 (1914).

Type, *Z. malabarensis*, Dist.

Distribution. British India.

Head much narrower than pronotum, vertex narrow, its lateral

margins prominently ridged, their apices subacute; eyes large, obliquely directed along the lateral margins of the pronotum; face long, narrow, the lateral margins strongly ridged and slightly undulate, divergent before the clypeus, which is tricarinate and only slightly shorter than the face; antennæ with the second joint long, longer than the head and pronotum together; pronotum short, centrally tricarinate, the lateral areas extending backwardly and obliquely over the lateral margins of the mesonotum, its margins ridged; mesonotum obscurely tricarinate; abdomen short and robust; legs slender, posterior tibiæ with a distinct spine; tegmina elongate, more than three times as long as broad, their apices subtruncate, five costal areas, four central basal areas, a series of twelve areas from apex to posterior inner margin, and two central subapical areas (the outermost small) beneath the fifth costal area; wings very short, somewhat imperfect in the unique typical specimen.

3224. *Zoraidoides malabarensis*, *Dist. A. M. N. II.* (8) xiii, p. 418 (1914).

Body castaneous; eyes black; central carinations to mesonotum and macular markings to pronotum pale ochraceous; face pale ochraceous, spotted with castaneous; second joint of antennæ

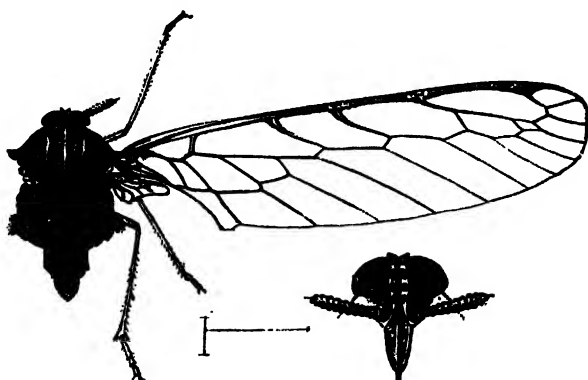


Fig. 50.—*Zoraidoides malabarensis*.

dull ochraceous, its apex pale testaceous; legs greyish white; tegmina and wings hyaline, the first with the costal marginal area ochraceous, excepting above the first and second costal areas, where it is hyaline, veins obscure ochraceous; wings with the veins brownish-ochraceous; structural characters as in generic diagnosis.

Length excl. tegm. 5; exp. tegm. 26 millim.

*Hab.* Malabar; Taliparamba (*T. Bainbrigge Fletcher, Brit. Mus.*).

This specimen was found on "Pepper."

Genus **DIOSTROMBUS** to replace **DRONA**. (Vol. III, p. 305.)

*Diostrombus*, Uhler, *Proc. Nat. Mus. U.S.* 1896, p. 283; Muir, *Bull.*

*Exp. Stat. Haw. Plant. Assoc.* xii, 1913, p. 80.

*Drona*, *Dist. Faun. Brit. Ind., Rhynch.* iii, p. 305 (1906).

Mr. Muir (*supra*) has recently examined a cotype of Uhler's genus contained in the National Museum, Washington, and states that he cannot separate it from the genus I proposed under the name of *Drona*. *Diostrombus* was proposed for a Japanese species, and that must be accepted as the type.

Type, *D. politus*, Uhler.

The distribution now extends over the Oriental and Ethiopian Regions, and also includes Japan.

**DIOSTROMBUS CARNOSUS.**

*Drona carnea* (vol. iii, p. 305, fig. 146).

Add: *Hab.* Bengal; Shripur, Chapra (*Mackenzie*), Nagpur (*Govt. Farm, R. R. K.*), Monghyr (*Jenkins, Ind. Mus.*). United Provinces; Allahabad (*B. Lord, Ind. Mus.*). Sikkim; Sukna, 500 feet (*N. Annandale, Ind. Mus.*).

At Nagpur this species was found on maize.

**DIOSTROMBUS PENNATUS.**

*Drona pennata*, *Dist.* (vol. iii, p. 306).

*Diostrombus pennatus*, Muir, *Bull. Exp. Stat. Haw. Plant. Assoc.* xii, 1913, p. 80.

Add: *Hab.* Java (*Muir*).

Genus **ROBIGUS**.

*Robigus*, *Dist. A. M. N. H.* (8) viii, p. 641 (1911).

Type, *R. sanguineus*, *Dist.*

*Distribution.* Ceylon.

Head narrow, vertex strongly projecting in front of eyes, a little broadened anteriorly, the lateral margins distinctly acutely raised, the apical angles slightly prominent; face long and narrow, the lateral margins distinctly raised, longer than clypeus which is centrally ridged; pronotum narrow, the lateral margins amplified and distinctly forwardly produced on each side of eyes; mesonotum tricarinate; abdomen with the segmental incisures profound, above with the apical area narrowed and angulated; legs of moderate length, posterior tibiæ not spined; tegmina more than three times as long as broad, with distinct series of apical and subapical cells, two longitudinal cells at end of radial area, and above these the contour of the costal margin is distinctly broken by an irregular, raised, longitudinal, cellular interspace; the tegminal apices are

slightly narrowed and rounded; wings shorter and a little broader than tegmina, the venation complicated by the vein at end of radial area being concavely sinuated and bifurcating at about half its length, forming a marginal cell, before apex a transverse vein defining three apical cells.

A genus to be placed near *Interamma*, Walk.

3225. *Robigus sanguineus*, *Dist. A. M. N. H.* (8) viii, p. 641 (1911).

Body and legs sanguineous, mottled with ochraceous, the tibiae and tarsi ochraceous, the apical area of the abdomen above (excluding apex) pitchy-black; tegmina ochraceous, much suffused with sanguineous, the latter coloration more prominent on the



Fig. 51.—*Robigus sanguineus*.

costal and apical areas and in some macular markings on disk, on apical margin two or three rather obscure greyish spots; wings sanguineous, with their extreme bases ochraceous.

Length excl. tegm. 3; exp. tegm. 14½ millim.

*Hab.* Ceylon; Kandy (*Green*).

Mr. F. E. Green sent me a single example of this beautiful and distinct genus and species.

### Genus DAWNARIA.

*Dawnaria*, *Dist. A. M. N. H.* (8) viii, p. 642 (1911).

Type, *D. atroterminata*, *Dist.*

*Distribution.* Burma.

Head short, the vertex narrow, continued moderately in front of eyes, its apical angles slightly prominent; face long and narrow, about equal in length to clypeus; antennæ with the second joint prominent, scarcely shorter than head; pronotum narrow, slightly widened towards the lateral angles; mesonotum tricarinate, but the central carination very indistinct; abdomen short and broad, above centrally ridged, little angulated on each side before apex; legs of moderate length, posterior tibiae not spined; tegmina more than three times as long as broad, narrow, but gradually widening from base to apex, which is obtusely angularly rounded; the veins mostly longitudinal, but furcating on apical area, form a cluster of apical cells, and a longer cell on

apical margin; wings very long, about as broad but only a little shorter than tegmina, two transverse veins on upper disk beyond middle, and a single apical cell.

3226. *Dawnaria atroterminata*, *Dist. A. M. N. H.* (8) viii, p. 642 (1911).

Body above ochraceous; a central line on disk and apical margins of abdomen above black; body beneath and legs very pale ochraceous; tegmina tawny brown, with three broken transverse greyish-white fasciæ—the first near base, broken in the middle,



Fig. 52.—*Dawnaria atroterminata*.

the second near middle, dislocated near costal margin, the third near apex, short and discal, costal area greyish white with longitudinal dark tawny spots, a dark somewhat rounded spot near apex; wings hyaline, reflecting opaline lustre.

Length excl. tegm. 2; exp. tegm. 11 millim.

*Hab.* Lower Burma; Dawna Hills.

Genus **KERMESIA**. (Vol. III, p. 308.)

**KERMESIA ALBIDA**. (Vol. III, p. 309, fig. 149.)

Add: *Hab.* Travancore: Kulittupuzhi; west base of W. Ghats (*Annandale, Ind. Mus.*).

Hitherto only recorded from Ceylon.

3227. *Kermesia nigropunctata*, sp. n.

Vertex of head very pale ochraceous, a little darker centrally; pronotum very pale ochraceous with two small dark central

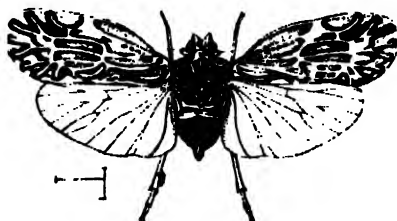


Fig. 53.—*Kermesia nigropunctata*.

spots, the lateral areas also broadly dark castaneous; mesonotum

castaneous, a central longitudinal fascia, a sinuate fascia on each side, and the posterior margin pale ochraceous; abdomen above ochraceous, the basal area more or less greyish tomentose, the apical area dark fuscous; body beneath imperfectly seen in unique carded specimen; legs pale ochraceous, apices of the tarsi black; tegmina very pale brownish-ochraceous, the veins mostly broadly greyish white, with many fuscous shadings and spots (as shown in the figure), the most prominent being a waved black fascia in the claval area; vertex of head prominently angulate on each side; face pale ochraceous, the lateral margins strongly carinate, the cheeks pale castaneous.

Length excl. tegm. 4; exp. tegm. 12 millim.

*Hab.* South India; Kodaikanal (*T. V. Campbell*).

Allied to *K. maculata*, Melich., from Java.

### Genus *NISIA*. (Vol. III, p. 309.)

The position of this genus is somewhat uncertain. I follow Melichar in placing it in the Derbinæ, though of course its aberrant structure among the Derbids cannot be overlooked. Muir (Bull. E. S. H. P. xii, p. 29, 1913) writes of *Nisia* and two other genera: "I exclude them from the family Derbidae but, inconsistently, have included them in this Bulletin because several of our greatest authorities on Homoptera have considered them as Derbids." Muir seems inclined to the view that *Nisia* belongs to the Cixiinae. Matsumura (Ann. Mus. Nat. Hung. xii, p. 287, 1914) places the genus in the Achilinae.

Under these circumstances I leave *Nisia* among the Derbids, a position which perhaps does not seem congenial, and from which it will probably be ultimately transferred.

### *NISIA ATROVENOSA*. (Vol. III, p. 309, fig. 150.)

Add: *Hab.* Bengal; Chapra (*Mackenzie*), Sonadigee and Sorabkatti, Ganges Delta (at light, *Jenkins*), Kushtea (*Jenkins*). Madhupur (*Paiva, Ind. Mus.*). Lake Chilka, N.E. Madras (*Annandale, Ind. Mus.*). S. India; Kodaikanal (*T. V. Campbell*).

This species has now also been received from the Seychelle Islands.

### 3228. *Nisia campbelli*, sp. n.

Greyish white; vertex and pronotum somewhat stramineous; mesonotum shining black, the lateral margins and central carination stramineous; body beneath pale ochraceous, abdomen and sternum more or less fuscous brown; tegmina greyish white, costal, apical, and inner margins—to about apex of clavus—narrowly dark fuscous; mesonotum globose, strongly centrally carinate; apical areas to tegmina five in number; face longer than broad,

laterally strongly ridged and centrally more finely carinate ; legs pale stramineous.

Length excl. tegm. 2 ; exp. tegm. 8 millim.

*Hab.* South India ; Chikkaballapura (*T. V. Campbell*).

A single specimen of this remarkably distinct species has been received.

### Genus PHACONEURA.

*Phaconeura*, *Kirk. Bull. Exp. Stat. Haw. Plant. Assoc.* no. 1, p. 427 (1900) \*.

Type, *P. froggatti*, *Kirk.*, from Australia.

*Distribution.* Ceylon ; Australia.

"Differs from *Nisia* by the head being strongly carinate longitudinally in the middle, and by the lateral margins being less elevated above the disk" (*Kirkaldy*).

This must be taken as an Australian genus represented in Ceylon.

3229. *Phaconeura fletcheri*, *Kirk. Ann. Soc. Ent. Belg.* 1908, p. 13.

I have obtained a drawing of this species which is, to me, otherwise unknown. I give *Kirkaldy's* description :—

"Differs from *P. froggatti*† by the claval veins being united about the middle of the clavus instead of near the apex ; also it is

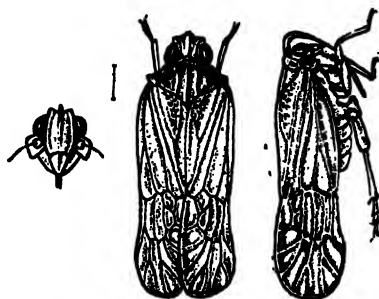


Fig. 54.—*Phaconeura fletcheri*.

not the exterior, but the interior vein of the clavus which is granulate, and that much more widely.

"Yellowish-testaceous, the disk of pronotum browner. Tegmina smoky, with well marked white veins, which are mostly margined

\* It is necessary to point out that *Kirkaldy* in his short description of his typical species of this genus, refers to his pl. xxix, figs. 5, 6. It should however be, as later correctly stated in the "Description of Plates," pl. xxix, figs. 3, 4.

† An Australian species.

with fuscous, apically somewhat suffusely. Wings pale smoky, veins fuscous. Abdomen dorsally partly dark fuscous."

Length  $4\frac{1}{2}$  millim.

*Hub.* Ceylon; Trincomali (*T. Bainbrigge Fletcher*).

### Genus SUMANGALA.

Sumangala, *Dist. A. M. N. II.* (8) viii, p. 642 (1911).

Type, *S. delicatula*, *Dist.*

*Distribution.* Ceylon.

Head rather long, narrow, vertex distinctly projecting beyond the eyes; face compressed, rounded from vertex, long and narrow, longer than the clypeus; pronotum very short, the lateral areas dilated and subangularly produced transversely and a little forwardly; mesonotum broad, broader than long, the lateral margins rounded; anal appendages bilobate; tegmina about twice as long as greatest width, much narrower at base than at apex, costal margin rounded, costal membrane broad, with three transverse veins, sometimes placed near apex or sometimes one near middle, the other two near apex, about eight apical areas, the ulnar area immediately below radial area very long, radial area narrow; wings a little narrower and shorter than tegmina, radial area apically broadened, three apical areas, apex of radial area well defined by obliquely transverse veins.

By the venation of the tegmina this genus is allied to *Kermesia*, Melich., by the structure of the face it is more allied to *Rhotana*, Walk.

3230. *Sumangala delicatula*, *Dist. A. M. N. II.* (8) viii, p. 643 (1911).

Body and legs pale ochraceous; the compressed margin of face and the sublateral margins to pronotum more or less sanguineous; tegmina creamy-white, subhyaline, the veins mostly very pale fuscous, on the apical area some of the veins are infuscated, the

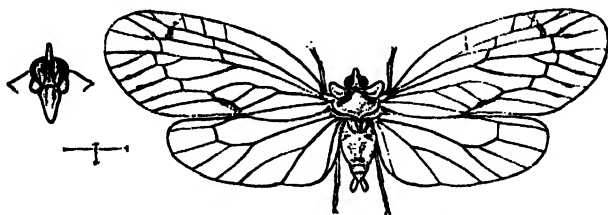


Fig. 55.—*Sumangala delicatula*.

most prominent of these fuscous markings being at the apex of clavus and continued along the apices of the two cells above it, and a curved line reaching costal margin a little before apex, some of the longitudinal veins defining the lower apical areas bear a



small pale fuscous spot; wings creamy-white, subhyaline, the veins almost concolorous.

Length excl. tegm. 2 mm.; exp. tegm. 9 millim.

*Hab.* Ceylon; Nuwara Eliya, Pattipola (*Green*).

### Genus **ALARA**.

*Alara*, *Dist. A. M. N. H.* (8) p. 643 (1911).

Type, *A. dux*, *Dist.*

*Distribution.* Ceylon.

Vertex of head very narrow, slightly projecting beyond eyes; face long, narrow, a little widened before clypeus, which is long, broad, finely carinate centrally and laterally; antennæ short, inserted near base of clypeus, second joint very robust; pronotum narrow, triangularly anteriorly produced, the lateral areas moderately foliaceously ampliate; mesonotum broad; legs long and slender; tegmina short, broad, costal margin rounded, narrowed and sinuate at base, costal area broad with a few transverse veins, apical areas numerous and short, a subapical series of transverse discontinuous veins, two transverse discal veins a little beyond base; wings a little narrower and shorter than tegmina.

*Alara* in this enumeration may be also placed among the genera near *Kermesia*, *Melich*.

3231. *Alara dux*, *Dist. A. M. N. H.* (8) viii, p. 643 (1911).

Body and legs ochraceous; anterior femora and apical area of abdomen castaneous; tegmina subhyaline, talc-like, suffused with



pale fuscous, which is broken on costal and apical areas and also near end of clavus, extreme costal margin in places carmine-red; wings creamy-white.

Length excl. tegm. 2; exp. tegm. 9 millim.

*Hab.* Ceylon; Maskeliya, Kandy (*Green*).

Genus **KAMENDAKA**. (Vol. III, p. 310.)

*Nicertoides*, *Matsum. Mém. Soc. Ent. Belg.* xviii, p. 133 (1911).

Mr. Frederick Muir, who has published the results of his special study of the *Derbinae*, while recently in Japan examined the types of the genera proposed by Prof. Matsumura. He sent me a cotype of *N. saccharivora*, Mats., by which I am enabled to synonymise *Nicertoides* with *Kamendaka*.

The genus has now been found to have a wide range. Muir has described species from the Malayan Archipelago and Australia, and Matsumura others from Formosa.

**KAMENDAKA SPECTRA**. (Vol. III, p. 311, fig. 151.)

Add: *Hab.* E. Himalayas; Kurseong, 5000 ft. (*Lynch, Ind. Mus.*).

Genus **PERANDENINA**.

*Perandenina*, *Dist. A. M. N. II.* (8) viii, p. 644 (1911).

Type, *P. typica*, *Dist.*

*Distribution.* India, Ceylon.

Head (including eyes) considerably narrower than pronotum; vertex projecting beyond the eyes, somewhat flat, its apex truncate, its base concavely emarginate; face narrow, the lateral margins very strongly ridged, from behind eyes gradually narrowed to clypeus, which is moderately convex and centrally longitudinally ridged; pronotum narrow, widened at its lateral areas, the posterior margins of which are more or less obliquely truncate, the base strongly concavely emarginate; mesonotum large, four times as long as pronotum, rather obsoletely tricarinate on vertex; legs of moderate length, posterior tibiae not spined, basal joint of posterior tarsi elongate; tegmina elongate, about four times as long as broad, the margins parallel, costal margin distinctly sinuate near base, apical margin truncately rounded, veins longitudinal, costal membrane not transversely veined, about seven short apical areas, the uppermost immediately preceded by two short and broad cells, two distinct elongate basal cells, followed by four elongate subapical cells; wings ample, considerably broader and only moderately shorter than tegmina; rostrum short, robust, the apical joint minute.

Allied to *Kamendaka*, *Dist.*

**3232. Perandenina typica**, *Dist. A. M. N. II.* (8) viii, p. 644 (1911).

Vertex of head, mesonotum, body beneath, and legs bright ochraceous; pronotum and sometimes vertex of head distinctly

paler; eyes black; tegmina and wings cretaceous white, moderately tomentose, the upper and apical areas of the latter with opaline lustre; other characters as in generic diagnosis.

Length excl. tegm. 3; exp. tegm. 12 millim.

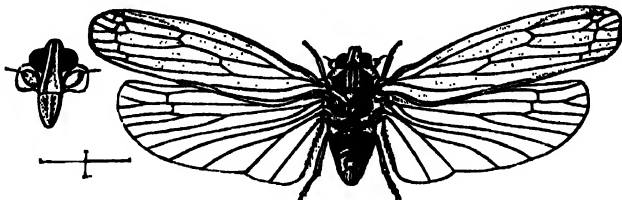


Fig. 57.—*Perandeuina typica*.

*Hab.* Ceylon; Peradeniya (Green). Kumaon; Bhim Tal, 4500 feet (Annandale).

### Genus **CHAPRINA**.

*Chaprina*, *Dist. A. M. N. H.* (8) viii, p. 644 (1911).

Type, *C. nigromaculata*, *Dist.*

*Distribution.* Bengal, Ceylon.

Head (including eyes) very much narrower than pronotum; vertex prolonged in front of eyes, its lateral margins ridged, its apex angulated; face long and narrow, the lateral margins very strongly ridged, slightly widened before clypeus, which is shorter than the face and with its margins strongly ridged; pronotum very short, especially behind head, the lateral areas angularly dilated; mesonotum finely tricarinate; legs of moderate length, posterior tibiæ not spined; tegmina about three times as long as broad, a little widened apically, the costal and inner margins nearly parallel, the apical margin a little rounded and sinuate, a series of short irregular apical cells continued round the apex of costal area, on lower portion of which near apex is a short narrow longitudinal cell; wings broader and a little shorter than the tegmina, the radial area long.

3233. *Chaprina nigromaculata*, *Dist. A. M. N. H.* (8) viii, p. 645 (1911).

Head, pronotum, and mesonotum ochraceous, more or less greyishly tomentose; abdomen above fuscous, a greyish white transverse fascia near base, the apical area ochraceous, with transverse black spots; head beneath, sternum, and legs more or less ochraceous; abdomen beneath castaneous brown, its apex

ochraceous; tegmina creamy-white, with waved irregular ochraceous markings, these principally consist of some obliquely transverse lines in costal area, a subtriangular fascia near base continued

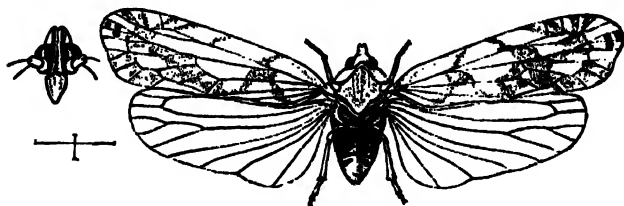


Fig. 58.—*Chaprina nigromaculata*.

from about end of clavus to the submarginal area, where it more or less encloses some pale spots, at the apex three distinct black spots; wings pale creamy-white, the veins pale fuscous.

Length excl. tegm.  $3\frac{1}{2}$ ; exp. tegm. 12 millim.

*Hab.* Bengal; Chapra (*Mackenzie*), Pusa (found on grass).

3234. *Chaprina vittata*, *Dist. A. M. N. II.* (8) viii, p. 645 (1911).

Body and legs stramineous; vertex and pronotum greyish white; tegmina creamy-white, with irregular ochraceous markings, these are maculate and consist of an elongate spot occupying nearly basal half of clavus, another at and rising above claval apex, two in radial area (one at base, the other at apex), one at end of cell beyond radial area, two, almost united, beneath the base of this cell, and some marginal irregular spots of the same colour, a few small dark spots on disk, and at the apex two short dark longitudinal vittæ, with a small dark spot above and below them; wings pale creamy-white.

Length excl. tegm. 3; exp. tegm. 10–11 millim.

*Hab.* Bengal; Chapra (*Mackenzie*). Ceylon; Hakgala (*Green*).

### Genus TAPOOSA.

*Tapoosa*, *Dist. A. M. N. II.* (8) viii, p. 646 (1911).

Type, *T. maskeliya*, *Dist.*

*Distribution.* Ceylon.

Vertex of head projecting beyond the eyes, with a short acute spine on each side at apex, recurved, narrow, the lateral margins ridged, angularly widened between the eyes; face long, narrow, behind the eyes widened outwardly and then inwardly to clypeus, which is very short; antennæ inserted beneath the eyes, second

joint moderately short and thick; pronotum short, angularly directed anteriorly, lateral margins not foliaceous; mesonotum broad, tricarinate; legs long and slender; tegmina somewhat narrow, their apices subangularly rounded, apical areas numerous, short, ill-defined, and continued round apices of costal and inner margins, an irregular series of transverse and discontinuous veins beyond middle, costal area broad; wings a little shorter and broader than tegmina.

Allied to *Kamendaka*, Dist. The Australian genus *Makula*, Dist., also belongs to this group of genera.

3235. *Tapoosa maskeliyæ*, Dist. *A. M. N. H.* (8) viii, p. 646 (1911).

Body and legs very pale tawny; mesonotum with the carinations fuscous; two fuscous lines on each side of the laterally compressed head, radiating from eye to margin; clypeus, disk of sternum, and femora black; tegmina subhyaline, talc-like, apical

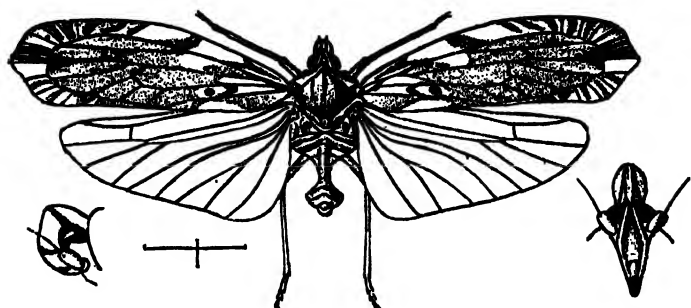


Fig. 59.—*Tapoosa maskeliyæ*.

veins more or less sanguineous, apical areas with fuscous streaks, the whole remaining disk suffused with pale fuscous, excluding some pale spots in costal area, basal area, and clavus; wings pale hyaline with an opaline lustre, the veins on costal area fuscous.

Length excl. tegin.  $3\frac{1}{2}$ ; exp. tegin. 13 millim.

*Hab.* Ceylon; Maskeliya (*Green*).

3236. *Tapoosa maculosa*, Dist. *A. M. N. H.* (8) viii, p. 646 (1911).

Head very pale ochraceous; pronotum greyish white; mesonotum pale ochraceous; abdomen above and body beneath and legs pale ochraceous; tegmina pale creamy-white, the veins and scattered suffusions pale ochraceous, a small spot near middle of costal membrane, another at base of radial area, a series on inner margin, and some still smaller spots on apical margin fuscous or piceous; wings pale creamy-white; a central ridge and the apex

of abdomen above distinctly paler; face a little less dilated than in *maskeliya* and *elegantula*.

Length excl. tegm. 3; exp. tegm. 13 millim.

*Hab.* Ceylon; Maskeliya.

3237. *Tapoosa elegantula*, *Dist. A. M. N. H.* (8) viii, p. 647 (1911).

Head creamy-white, central base foveately ochraceous, lateral margins of the face greyish white, with transverse fuscous lines; pro- and mesonota ochraceous, the former with a sublateral black fascia behind eyes, the latter with the margins more or less irregularly black; abdomen above and body beneath and legs pale ochraceous; tegmina creamy-white, a black spot near middle of costal membrane, the remainder of this area to near apex dull ochraceous, with a minute black spot beyond middle of costal margin, the apex creamy-white with minute black spots, and with a short, broad, central, sanguineous, fasciate spot containing two small rounded and two linear black spots; beneath radial area are two ochraceous spots margined with fuscous, the first basal, the second near middle, and beyond the latter on posterior marginal area a series of waved blackish lines; wings creamy-white; abdomen strongly constricted before apex.

Length excl. tegm.  $2\frac{1}{2}$ ; exp. tegm. 10 millim.

*Hab.* Ceylon; Peradeniya (*Green*).

From fronds of palm-trees (*E. E. Green*).

## Genus PHRA.

*Phra*, *Dist. A. M. N. H.* (8) viii, p. 647 (1911).

Type, *P. amplificata*, *Dist.*

*Distribution.* N.W. India, Ceylon.

Vertex of head moderately broad and triangular, distinctly projecting in front of eyes, the lateral margins strongly ridged; face very long and narrow, broadest at base, lateral margins strongly ridged; clypeus short, broad, obscurely ridged; antennæ inserted beneath eyes, short, robust; pronotum short, subtriangularly produced anteriorly, the lateral areas acutely foliaceous; mesonotum broad and long; legs long and slender; tegmina widening towards apices, which are subtruncate, costal area broad, with two or three indistinct transverse veins beyond middle, apical areas numerous, short, extending from posterior angle of inner margin to apex of costal margin, only one subapical series of transverse veins; wings about two-thirds the length of tegmina, four discal transverse veins beyond middle.

*Phra* in the Indian fauna must be placed near *Kamendaka*. It is more closely allied to the Australian genus *Heronax*, Kirk.

3238. *Phra amplificata*, *Dist. A. M. N. H.* (8) viii, p. 648 (1911).

Head, pronotum, body beneath, and legs pale ochraceous; eyes black, with golden iridescence; mesonotum with four castaneous fasciæ, two central and contiguous, and one near each lateral margin; tegmina subhyaline, talc-like, pale fuscous streaks in costal and apical areas, many of the discal veins suffused with

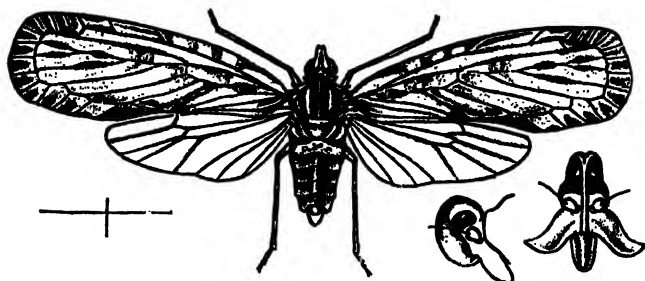


Fig. 60.—*Phra amplificata*.

fuscous and more prominent suffusions in radial area and on inner margin; wings hyaline, with an opalescent lustre, the veins a little darker.

Length excl. tegm. 3 to 4; exp. tegm. 17 to 18 millim.

*Hab.* Ceylon; Maskeliya (*Green*).

3239. *Phra atromaculata*, *Dist. A. M. N. H.* (8) viii, p. 648 (1911).

Body above, head beneath, sternum, and legs dull brownish ochraceous, the abdomen with the posterior segmental margins greyish white; abdomen beneath dull stramineous, with lateral marginal fuscous spots and the posterior segmental margins greyish white; tegmina dull greyish white, talc-like, the veins prominent and beyond basal area paler and more creamy-white in colour, with small scattered black spots, two in posterior half of costal membrane, two in radial area, one beneath radial area, and another (larger) near claval apex, on apical half of disk three or four spots arranged longitudinally; wings creamy-white.

Length excl. tegm. 4; exp. tegm. 13 millim.

*Hab.* N.W. India.

3240. *Phra pictipennis*, *Dist. A. M. N. H.* (8) xiii, p. 420 (1914).

Body above pale tawny-brown; mesonotum with two central linear fasciæ and a large spot on each lateral area dull castaneous brown, margins narrowly greyish white; body beneath and legs

pale ochraceous, base of abdomen black where the segmental margins are greyish white; tegmina pale, creamy semihyaline, much mottled with very pale fuscous, three or four linear longitudinal black spots in costal area, apical veins more or less suffused with blackish, three rounded black spots on basal third and three blackish spots on inner margin; wings white, semihyaline, the veins darker.

Allied to *P. amplificata*, Dist., from Ceylon, but with the vertex of head slightly shorter and considerably more concave; the amplified mesonotal margins much broader and less spinous, markings of the tegmina distinct, &c.

Length excl. tegm.  $3\frac{1}{2}$ ; exp. tegm. 18 millim.

Hab. U. P. Brit. India, Bankatti (*A. D. Imms, Brit. Mus.*).

"Under bark and in rotten wood of standing Sal."

### Genus **ARCHA**.

*Archa*, Dist. *A. M. N. H.* (8) viii, p. 648 (1911).

Type, *A. typica*, Dist.

Distribution. Ceylon.

Vertex of head long and narrow, projecting considerably beyond eyes, moderately widened posteriorly, notched at apex, the lateral margins strongly ridged; face long and narrow, the lateral margins ridged, a little amplified before clypeus, which is centrally ridged and much shorter than face; antennæ inserted just before base of clypeus, long, second joint very robust; rostrum reaching the posterior coxæ, apical joint of moderate length; legs moderately long and slender; pronotum short, angularly sinuate, its lateral margins foliaceously produced, its posterior margin ridged; mesonotum long, somewhat obscurely tricarinate; tegmina narrow at base, broadened towards apices, apical areas numerous, short, extending from posterior angle of inner margin to apex of costal margin; costal area wide, without transverse veins, costal margin sinuate a little beyond base.

By the strongly developed antennæ *Archa*, in this fauna, is allied to *Vinata* and *Devadunda*, and by the structure of the antennæ more to *Vinatu*; the position of their insertion, the structure of the face, and the single series of transverse veins to the apical areas of the tegmina will, however, prevent any confusion. It is more nearly allied to the Australian genus *Kuranda*, Dist.

3241. *Archa typica*, Dist. *A. M. N. H.* (8) viii, p. 649 (1911).

Head, pronotum, and mesonotum ochraceous; a lateral fascia on each side of mesonotum black; central area of face, eyes, and antennæ black; sternum and legs piceous; abdomen beneath with



the posterior segmental margins sanguineous and basally suffused

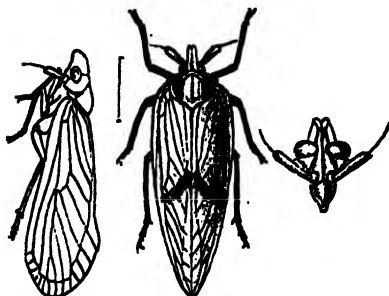


Fig. 61.—*Archa typica*.

with piceous; tegmina cretaceous white, near middle crossed by a broken transverse black fascia.

Length incl. tegm. 8 millim.

*Hab.* Ceylon; Peradeniya (*Green*).

Mr. Green has sent me a single specimen of this species.

### Subfamily LOPHOPINÆ. (Vol. III, p. 317.)

#### Genus ELASMOSCELIS. (Vol. III, p. 318.)

*ELASMOSCELIS PLATYPODA.* (Vol. III, p. 318, fig. 155.)

Add: *Hab.* Bengal; Calcutta (*Ind. Mus.*), Belgachia.

#### Genus PITAMBARA. (Vol. III, p. 319.)

3242. *Pitambara montana*, *Dist. A. M. N. H.* (8) ix, p. 188 (1912).

Vertex very pale flavescent, the margins and two small spots at base brownish testaceous; pronotum flavescent, with a sub-lateral piceous spot on each side; mesonotum black, its apex flavescent; abdomen above piceous, the basal area and narrow segmental margins flavescent; body beneath and legs ochraceous, femora more or less annulated with piceous; tegmina hyaline, largely marked and suffused with piceous, the principal features of which are the basal area, a large spot before end of clavus and about apical third, the latter is oblique and does not reach the apex or apical margin, to the first of which it is connected by two oblique stripes, the costal membrane is also obliquely, transversely fasciately marked with piceous; wings fuliginous; vertex with the lateral margins strongly ridged, moderately produced in front

of eyes; face much longer than broad, posteriorly strongly angularly amplified, its lateral margins (except on posterior area)

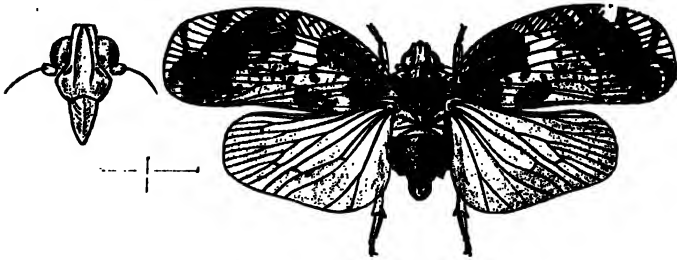


Fig. 62. — *Pitambara montana*.

laminately dilated and with two carinae on each of their under-surfaces; clypeus centrally and laterally carinate; posterior tibiae with a single spine.

Length  $4\frac{1}{2}$ ; exp. tegm. 13 millim.

*Hab.* Lower Burma; Dawna Hills (*Annandale*).

A single specimen captured by Dr. N. Annandale.

3243. *Pitambara dawnana*, *Dist. A. M. N. H.* (8) ix, p. 189 (1912).

Vertex greyish white with two minute brownish spots at base, eyes brownish; pronotum black, a central line and the lateral areas greyish white; mesonotum black, its lateral angles greyish white; body beneath and legs very pale ochraceous, abdominal segmental



Fig. 63. — *Pitambara dawnana*.

margins greyish white; tegmina pitchy brown; costal membrane, a very large ovate spot near middle, inwardly almost reaching clavus, and the apical margin greyish white, subhyaline, the costal membrane at basal area and before apex is transversely spotted with pitchy-brown and the brown area beyond middle is obscurely spotted with greyish; wings greyish white, subhyaline; face

prominently angulated on each side before clypeus, with a very fine central carinate line and two ridges on the lateral areas; clypeus tricarinate; vertex moderately produced in front of eyes, its lateral margins ridged; mesonotum distinctly tricarinate.

Length incl. tegm. 7 millim.

*Hab.* Lower Burma; Dawna Hills (*Annandale*).

I have only seen a single specimen of this species.

Genus **SERIDA**. (Vol. III, p. 324.)

3244. *Serida sherwilli*, *Dist. A. M. N. H.* (8) ix, p. 189 (1912).

Closely allied to the type of the genus, *S. latens*, Walk.\*, but differing by the two central carinations to the face being less parallel and more divergent posteriorly, the wings more uniformly and darkly fuliginous, the tegmina with the apical marginal area without the linear angulated dark lines which are replaced by a continuous, irregularly waved transverse fascia, and the surrounding markings of a darker, larger, and more distinct character.

Length excl. tegm.  $7\frac{1}{2}$ ; exp. tegm. 21 millim.

*Hab.* Sylhet, Chandkhira (*Sherwill*).

This is the Western form of the genus; *S. latens* is at present not known further west than Tenasserim.

Genus **PYRILLA** to replace **ZAMILA**. (Vol. III, p. 326.)

*Pyrilla*, Stål, Berl. ent. Zeitschr. iii, p. 326 (1850).

*Zamila*, Walk. Journ. Ent. i, p. 304 (1862).

*Microchoria*, Kirby, J. Linn. Soc., Zool. xxiv, p. 147 (1891);

Melich. Hom. Faun. Ceylon, p. 63 (1903).

I had previously used Walker's name for this genus, but have since found that it is a synonym of *Pyrilla*, Stål.

3245. *Pyrilla pusana*, *Dist. A. M. N. H.* (8) xiv, p. 326 (1914).

Body and legs shining brownish ochraceous; pronotum and mesonotum usually more or less darker in hue, sometimes concolorous, sometimes dark castaneous; tegmina dark shining ochraceous, the apical area moderately infusate with many black spots, some minute dark spots varying in number on anterior disk; wings very palely infusate.

Allied to *P. lycoides*, Walk., but differing by the less robust cephalic process.

Length excl. tegm. 7-8; exp. tegm. 20-21 millim.

*Hab.* Pusa; Bihar (*Leffroy & Bainbrigge Fletcher*). Upper Burma (*Bainbrigge Fletcher*).

I had previously (*Ann. Soc. Ent. Belg.* li, p. 220, 1907)

considered this species to be conspecific with *P. lycoides*, Walk., but a large series of specimens recently sent me by Mr. Fletcher has proved it to be distinct. *P. lycoides* is probably restricted to Siam.

#### PYRILLA ABERRANS.

*Zamila aberrans* (Vol. III, p. 326).

Add: *Hab.* Behar; Pusa (*Bainbrigge Fletcher*); South India, Chikkaballapura (*T. V. Campbell*).

A pest to sugar-cane (*Maxwell Lefroy*).

#### PYRILLA PERPUSILLA.

*Zamila perpusilla* (Vol. III, p. 327).

Add: *Hab.* Behar; Pusa (*Bainbrigge Fletcher*).

#### Genus **BRIXIOIDES**. (Vol. III, p. 327.)

**BRIXIOIDES** *CARINATUS*. (Vol. III, p. 328.)

Add: *Hab.* Behar; Pusa (*R. P. V.*).

#### Genus **KUSUMA**. (Vol. III, p. 329.)

**KUSUMA** *CARINATA*. (Vol. III, p. 330.)

Add: *Hab.* Behar; Chapra (*MacKenzie*); Pusa (*G. S. Misra*); United Provinces, Allahabad (*Lord, Ind. Mus.*). Bombay; Bassein Fort (*A. M.*). Calcutta (*Ind. Mus.*).

In some specimens the fuscous brown markings to the tegmina as in typical examples (vol. iii, fig. 164) are absent or obsolete.

At Pusa the species has been found on sugar-cane (*Bainbrigge Fletcher*).

#### Genus **VARMA**. (Vol. III, p. 330.)

Melichar, Monogr. Tropiciduch. p. 36 (Verh. Ver. Brünn, 1914), places this genus in the Tropiciduchinæ. I retain it in the Lophopinæ as previously enumerated.

3246. **Varma** *distanti*, Melich. Monogr. Tropiciduch. p. 38 (Verh. Ver. Brünn, 1914).

This species I have not seen. It is described as allied to *V. tridens*, Dist.

*Hab.* "Assam; Khasia" (*Coll. Melichar*).

## Subfamily ISSINÆ. (Vol. III, p. 332.)

Genus **TUBILUSTRUM**, nov.

Type, *T. typicum*, Dist.

*Distribution.* Lower Burma.

Head (excluding eyes) about as broad as pronotum; vertex of head about as broad as long, concave, centrally and laterally carinate, the lateral ridges very pronounced, anterior margin subtruncate, a little emarginate; eyes very large, extending backward to base of pronotum; face longer than broad, the lateral margins narrowed and rounded towards clypeus, a strong submarginal carination on each side; clypeus shorter than face, the margins not carinate; pronotum about as long and broad as vertex (excluding eyes), moderately convex anteriorly, angularly emarginate posteriorly, lateral margins rounded; mesonotum tricarinate, about as long as head and pronotum together, the disk flattened, the lateral areas obliquely depressed; abdomen moderately long and robust; posterior tibiæ with a prominent spine beyond middle, first joint of posterior tarsi long and robust; tegmina about three times longer than broad, subhyaline, the venation robust, longitudinal for a little more than half the length after which there are numerous transverse veins, a particularly strong oblique continuous vein nearly crossing tegmen before apex, numerous apical marginal cells, claval vein not reaching claval apex; wings much broader but shorter than tegmina, a few transverse veins on apical area defining about seven short apical cells.

This genus possesses some aberrant characters from those given for the Issinæ in which I place it, such as the equal breadth of the vertex and pronotum, but in other characteristics it conforms to those of this subfamily.

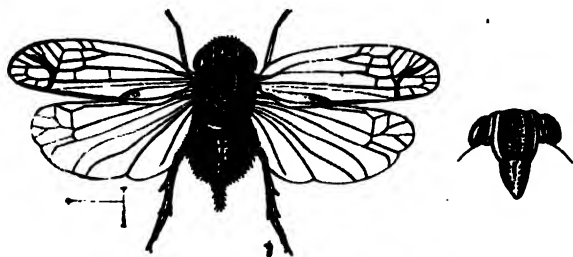


Fig. 64.—*Tubilustrum typicum*.

3247. *Tubilustrum typicum*; sp. n.

Body and legs fuscous brown; irregular markings to pronotum, the carinations to mesonotum, and marginal spots to abdomen

testaceous; margins of abdominal segments above greyish white, extreme lateral margins irregularly black; tegmina and wings subhyaline, venation black, much more strongly so in tegmina than in wings, the former also with some fuscous brown shadings near apex and in claval area; face between the submarginal carinations strongly granulose; clypeus centrally carinate and with short oblique dark striations on each side; other structural characters as in generic diagnosis.

Length excl. tegm. 5; exp. tegm. 14 millim.

*Hab.* Lower Burma.

Genus **BRAHMALOKA.** (Vol. III, p. 337.)

3248. *Brahmaloka fletcheri*, sp. n.

Vertex of head and pronotum dull greenish, anterior margin of vertex with black maculate markings, posterior margin more ochraceous; mesonotum brownish ochraceous, the carinæ and lateral margins ochraceous; face and clypeus brownish ochraceous, the face with darker speckles, and two contiguous transverse glossy black spots near anterior margin followed by a pale ochraceous

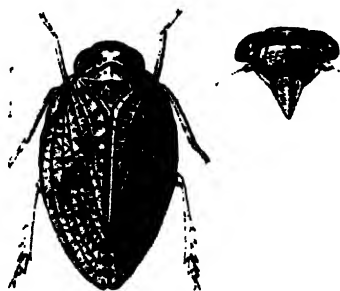


Fig. 65.—*Brahmaloka fletcheri*.

transverse fascia; clypeus with lateral oblique blackish striations; tegmina dull opaque brownish ochraceous, with central irregular dark fasciate markings; vertex (including eyes) as broad as pronotum, slightly broader than long, moderately concave, its margins carinate; face about as broad as long, centrally, straightly, finely carinate, the anterior margin truncate, moderately emarginate before the clypeus; pronotum about as long as mesonotum and with a central fine longitudinal carination; apical margins of the tegmina truncate rounded; posterior tibiae with two spines beyond middle.

Length incl. tegm. 6 millim.

*Hab.* Brit. India; North Coorg, Santikoppa (*T. Bainbrigge Fletcher*).

Genus **REDARATOR**, nov.

Type, *R. bimaculatus*, Dist.

Distribution. South India.

Vertex centrally about as broad as long, moderately convexly produced in front of eyes, the apical margin distinctly carinate, the disk a little concave, posterior margin concave; eyes longer than broad and posteriorly slightly produced; face large, a little convex, about as broad as long, a little narrowed before clypeus, which is about as long as broad at base, and laterally obliquely transversely striate, anterior margin slightly convexly produced; pronotum shorter than vertex, subconvexly rounded anteriorly, posterior margin truncate, the lateral angles distinctly produced, centrally carinate; mesonotum about as long as vertex, the lateral margins concavely oblique, centrally carinate; tegmina deflected in a subconvexly oblique position to the body, narrowed and rounded at apices, reticulately transversely veined between the longitudinal veins; posterior tibiæ with two spines.

In this enumeration the genus will be placed with *Tatva* (vol. iii, p. 336) and *Brahmaloka* (vol. iii, p. 337), both of which agree with *Redarator* in having the clypeus transversely striate (cf. "Synopsis of Genera," vol. iii, p. 333).

3249. *Redarator bimaculatus*, sp. n.

Brownish ochraceous; tegmina irregularly marked with black spots between many of the reticulate veins, especially in the claval area; face with two large contiguous glossy black spots

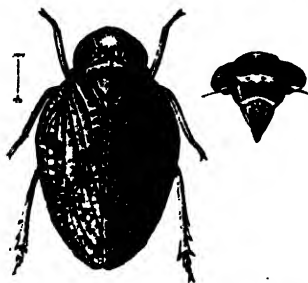


Fig. 66.—*Redarator bimaculatus*.

near the anterior margin, immediately beyond these spots the surface is moderately transversely impressed, and again before clypeus behind the black spots there is a transverse pale fascia marked with two small dark spots; structural characters as in generic diagnosis.

Length incl. tegm. 6 millim.

Hab. South India; Shevaroy Hills.

Genus **TEMPSA**. (To follow **JAGANNATA**, Vol. III, p. 338.)

*Tempsa*, *Stål, Hem. Afr.* iv, p. 208 (1866); *id. Berl. ent. Zeitschr.* x, p. 293 (1866).

Type, *T. malaya*, *Stål*, from the Malay Peninsula.

*Distribution*. Andaman Islands, Malay Peninsula, Borneo.

Vertex about as long as or a little longer than broad, the base strongly sinuate, the margins carinate and with a central carinate line, the frontal margin a little pointed medially; face a little longer than broad, the lateral margins a little sinuate and widened and rounded before clypeus, which is centrally carinate; pronotum more or less triangularly produced between the eyes, centrally carinate, the posterior margin truncate; mesosternum tricarinate, considerably and distinctly longer than pronotum; posterior tibiae with two spines; tegmina oblong, narrowing to apex, the apical margin truncately rounded; clavus shorter than corium, its apex reaching the end of the commissural margin, inner longitudinal vein furcate beyond, and the middle longitudinal vein furcate before median.

3250. *Tempsa rogersi*, *Dist. A. M. N. II.* (8) iv, p. 85 (1909).

Dull ochraceous; vertex with a piceous spot on each lateral margin; pronotum with two small central spots and a larger transverse spot on each side behind eyes piceous; scutellum with three large piceous spots, one near each basal angle and one near apex; face brownish, the lateral margins paler, with piceous spots, the spots on each side before clypeus larger and oblique; anterior

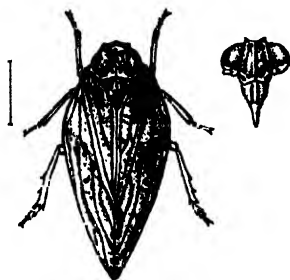


Fig. 67. — *Tempsa rogersi*.

and intermediate femora annulated with castaneous brown before apex, the anterior and intermediate tibiae annulated with castaneous brown near base and at apex; tegmina dull ochraceous, with the veins castaneous and with a series of small piceous spots on apical margin; vertex concave, with a very obscure central carination; pronotum with a central and scutellum with three carinations; face centrally carinate, the clypeus globose at basal area and very strongly centrally carinate.

Length incl. tegm. 10 millim.

*Hab.* Andaman Islands (*G. Rogers*).



Genus **THABENOIDES**, nov.Type, *T. albinotatus*, Dist.*Distribution.* South India.

Vertex a little longer than broad, moderately ampliate towards apex, the anterior lateral angles subacutely prominent, as is also the middle of the apical margin, the lateral margins strongly ridged; face considerably longer than broad, the anterior margin subtruncate, strongly centrally carinate, the lateral margins also carinate and slightly straightly oblique, inwardly recurved a little before clypeus which is moderately globose and centrally carinate; pronotum shorter than mesonotum or head, the anterior margin convexly produced, posterior margin subtruncate, centrally strongly carinate; mesonotum with an oblique carination on each lateral area; tegmina broad, marginally ovate, deflected in a subconvexly oblique position to the body, broadly rounded at apices, costal membrane and radial area about equally broad, interior ulnar vein furcate near middle, the whole surface more or less transversely veined; posterior tibiæ with two spines.

Allied to *Thabena*, Stål; pronotum anteriorly convexly not acutely produced, anterior margin of face subtruncate; venation of tegmina different.

3251. *Thabenoides albinotatus*, sp. n.

Vertex, pronotum and mesonotum more or less chocolate-brown; mesonotum with the lateral striations ochraceous; body beneath and legs chocolate-brown, femoral apices, annulations to anterior and intermediate tibiæ, and the posterior tibiæ ochraceous;

Fig. 68.—*Thabenoides albinotatus*.

tegmina chocolate-brown, the apical areas more brownish ochraceous, a large ill-defined spot on each marginal area before middle dull greyish white; face with the margins, central carination, central and apical spots, and a central fascia and basal spots to clypeus, dull ochraceous; structural characters as in generic diagnosis.

Length incl. tegm. 5 millim.

*Hab.* South India; Kodaikanal (*T. V. Campbell*).

## KODAIANA

### Genus **KODAIANA**, nov.

Type, *K. campbelli*, Dist.

*Distribution.* South India.

Vertex of head twice as broad as long, scarcely protruding beyond eyes, centrally and laterally carinate, the anterior lateral angles very slightly prominent, anterior margin roundly truncate, posterior margin concave; eyes overlapping the lateral margins of the pronotum; face moderately globose, behind eyes broader than long, anterior margin concavely truncate, obliquely narrowed near clypeus, centrally finely carinate, a fine distinct transverse carination between the eyes and a similar central longitudinal sulcation; clypeus short, globose, somewhat centrally longitudinally depressed; pronotum centrally longer than vertex, anteriorly subangularly produced between the eyes, posteriorly truncate; mesonotum about as long as pronotum, centrally strongly carinate; tegmina broad, laterally convex, apices moderately narrowed and rounded, at greatest breadth a little more than twice as long as broad, deflected in a subconvexly oblique position to the body, radial area distinct and elongate, strongly reticulately veined, the longitudinal veins uninterrupted and strongly prominent.

#### 3252. *Kodaiana campbelli*, sp. n.

Dull ochraceous; eyes black; two small spots on vertex, anterior margin of pronotum behind eyes, a spot near each anterior angle of the mesonotum, and a small spot on each side of the central carination, claval suture (more or less), and interstices between the reticulate veins on disk of tegmen, piceous or black;



Fig. 69.—*Kodaiana campbelli*.

apical areas of the tegmina paler in hue, frontal area of face between eyes, a central suffusion before clypeus, and a central fascia to clypeus more or less castaneous; structural characters as in generic diagnosis.

Length incl. tegm. 6 millim.

*Hab.* South India; Kodaikanal (*T. V. Campbell*).

Genus **TETRICA**. (Vol. III, p. 339.)**TETRICA BIFASCIATA**, *Dist.* (Vol. III, p. 340.)*Add: Hab.* South India; Kodaikanal (*T. V. Campbell*).**3253. *Tet:ica nigromaculata*, sp. n.**

Head ochraceous, much suffused with shining black; pro- and mesonota shining black, the lateral areas of the former and the basal angles and apex of the latter ochraceous; face black, imperfectly seen in carded specimen; legs pale fuscous brown, tibiæ apically more or less broadly annulated with pale ochraceous, their extreme apices also darkly fuscous brown, tarsi ochraceous with the apices of the joints and the claws fuscous; tegmina ochraceous, largely blackly maculate, the larger number of spots on apical half and in claval area, and a transverse series of three spots near base of costal area; subovate, head with eyes as broad as pronotum, not prominently produced in front of eyes; vertex transverse, moderately concave, its margins strongly ridged; pronotum short, anteriorly and triangularly produced, its base truncate, the lateral angles somewhat acutely produced and with a central carination; posterior tibiæ with two spines.

Length 5 millim.

*Hab.* South India; Kodaikanal (*T. V. Campbell*).Genus **PARATETRICA**, nov.Type, *P. opalina*, *Dist.**Distribution.* South India.

A genus closely allied to *Tetrica* but differing by the face being distinctly longer than broad, less ampliate posteriorly; vertex of head without a central carination.

**3254. *Paratetrica opalina*, sp. n.**

Opaline green; vertex of head, extreme margins of tegmina, and the legs more greenish ochraceous; apices of the femora and tibiæ green, apices of the tarsi more or less black; mesonotum paler and more opaline green; margins of the pronotum narrowly fuscous brown, subovate; head with eyes as broad as pronotum, lateral margins of vertex strongly ridged, its disk concave, the anterior margin a little sinuate, the lateral angles subprominent; face longer than broad, anterior margin subtruncate, the lateral margins slightly oblique to a little before clypeus where they are recurved, centrally and laterally carinate; clypeus about as long as broad at base; pronotum slightly shorter than either vertex or mesonotum,

its anterior margin angulate, its central disk moderately depressed; mesonotum with a faint central carination, two small tubercles on

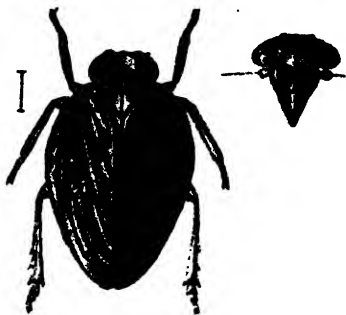


Fig. 70. — *Paratetrica opalina*.

each side of anterior margin; tegmina with the venation similar to typical *Tetrica*; posterior tibiae with two spines beyond middle. Length incl. tegm. 5 millim.

*Hab.* South India; Kodaikanal (*T. V. Campbell*).

Genus **SARIMA**. (Vol. III, p. 342.)

*SARIMA NIGROCLYPEATA*, *Melich. Mon. Issiden*, p. 302 (1906).

Dr. Melichar has described the above species from various Indian localities, including Bombay. The British Museum now contains some specimens from the Nilgiris, which in many respects appertain to the description but which cannot with certitude be identified as this species. As the present war prevents my communicating with Dr. Melichar, and the typical specimens appear to be contained in the Budapest Museum, I can only call attention to the species.

Genus **COINQUENDA**, nov.

Type, *C. nigroclavata*, Dist.

*Distribution.* South India.

Vertex of head very broad and moderately short, nearly three times as broad as long, the anterior margin sinuately subtruncate, tricarinate, the central carination straight, the lateral carinations oblique; eyes long, overlapping the lateral margins of the pronotum; face slightly broader than long, behind eyes gradually narrowed to clypeus, tricarinate, between the sublateral carinations and the lateral margins more or less transversely ridged; clypeus shorter than face, moderately robust, with two longitudinal carinations; pronotum more than twice as broad as long, with two strong central longitudinal ridges, the lateral margins concavely oblique, anterior margin truncate, posterior margin subangulately truncate; mesonotum about twice as broad as long,

centrally longitudinally depressed; tegmina deflected in a subconvexly oblique position to the body, narrowed and rounded at apices, the venation prominent, numerous reticulate veins, the cells longest at base and on basal area; posterior tibiæ with two spines.

3255. *Coinquenda nigroclavata*, sp. n.

Vertex, pronotum, mesonotum, face, and clypeus testaceous brown; sternum and body beneath more fuscous brown; legs paler with darker annulate markings; tegmina brownish ochraceous, the claval area black, remaining area more or less spotted



Fig. 71.—*Coinquenda nigroclavata*.

with black, the discal spots largest, the marginal spots smallest; structural characters as in generic diagnosis.

Length incl. tegm., ♂  $5\frac{1}{2}$ , ♀  $6\frac{1}{2}$  millim.

*Hab.* South India Nandidrug, Chikkaballapura (*T. V. Campbell*).

Genus **CORUNCANIUS**, nov.

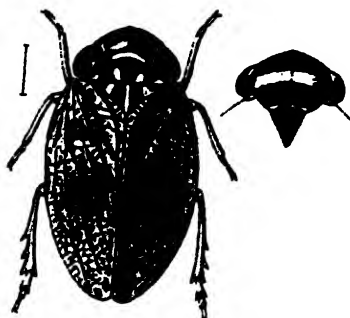
Type, *C. fascialis*, Dist.

*Distribution.* South India.

Vertex centrally nearly twice as broad as long, subangularly produced before eyes, centrally and laterally carinate, somewhat depressed between eyes, posterior margin concave; eyes long, overlapping the lateral margins of the pronotum; face moderately globose, broader than long, finely, indistinctly centrally carinate, anterior margin subangularly produced, laterally from behind eyes obliquely narrowed to clypeus, which is a little shorter than face; pronotum slightly shorter than vertex, subconvexly rounded anteriorly, posterior margin truncate; mesonotum as long as vertex, the lateral margins a little concavely sinuate; tegmina deflected in a subconvexly oblique position to the body, narrowed and angularly rounded at apices, reticulately transversely veined between the longitudinal veins which are prominent; posterior tibiæ with two spines.

3256. *Coruncanius fascialis*, sp. n.

Head, pronotum, and scutellum brownish ochraceous; vertex with the anterior margin black, the basal and lateral margins pale greenish or ochraceous; pronotum and mesonotum with pale greenish or ochraceous markings and smaller blackish spots; face and clypeus piceous, a broad pale greenish or greyish fascia between the eyes and the posterior margin maculately or sometimes continuously of the same colour; tegmina brownish

Fig. 72.—*Coruncanius fascialis*.

ochraceous tinged with pale greenish, paler on base and apical areas, spotted with black, principally a cluster above clavus, two elongate spots at apex of clavus, and a series of smaller inner and apical marginal spots; body beneath imperfectly seen in carded specimens; legs pale ochraceous; structural characters as in generic diagnosis.

Length incl. tegm  $5\frac{1}{2}$ –6 millim.

*Hab.* South India; Kodaikanal (*T. V. Campbell*).

Genus **DELHINA**.

Delhina, *Dist. A. M. N. H.* (8) ix, p. 650 (1912).

Type, *D. eurybrachydoides*, Dist.

*Distribution.* N. India.

Head (including eyes) very slightly narrower than anterior margin of pronotum; vertex concave, transverse, broader than long, lateral margins strongly amplately ridged, anterior margin a little sinuate; face with the greatest breadth about equal to greatest length, the anterior margin strongly concave, the disk moderately convex and tricarinate, the lateral margins amplately ridged and narrowing towards clypeus; clypeus about as long as the lateral margins of face, tumid and very distinctly centrally carinate; pronotum a little shorter than vertex of head, the base truncate, the anterior margin convexly rounded between the eyes; mesonotum subtriangular, somewhat faintly tricarinate and with a short carination near each anterior angle; abdomen

broad, slightly tumid above, flattened beneath; posterior tibiae with two strong spines, posterior tarsi with the basal joint longest; tegmina as long as greatest length of body, considerably narrowed towards apex, costal margin arched and convex at basal area, costal membrane broad, transversely, obliquely, somewhat reticulately veined, longitudinal veins more or less reticulately connected towards apical area, claval veins more or less transversely connected; wings much broader than tegmina, the margins convex, a moderately deep fissure on apical margin near apex, reticulately veined.

Allied to *Gelastyra*, Kirk. (n. nom.) (*Cibyra*, Stål, nom. præocc.).

3257. *Delhina eurybrachydoides*, Dist. A. M. N. H. (8) ix, p. 650 (1912).

Head and pronotum pale fuscous brown; pronotum with distinct darker longitudinal fasciæ, about five in number; abdomen above testaceous red; body beneath and legs brownish ochraceous; femora more or less annulated with piceous; abdomen beneath with segmental transverse black fasciæ; tegmina dull ochraceous,



Fig. 73.—*Delhina eurybrachydoides*.

much mottled with piceous, these suffusions appearing as a short, broad, oblique fascia near base, extending from costa to about middle of tegmen; wings golden yellow, apical margin on each side of fissure broadly piceous; face moderately piceous, more ochraceous towards the clypeus, and there with a small piceous spot on each side; structural characters as in generic diagnosis.

Length excl. tegm.  $9\frac{1}{2}$ ; exp. tegm. 25 millim.

Hab. Eastern Himalayas (*Brit. Mus.*).

#### Genus GELASTYRA.

*Cibyra*, Stål, Öfv. Vet.-Ak. Förh. xviii, p. 209 (1861); *Hem. Afr.* iv, p. 208 (1866), nom. præocc.

*Gelastyra*, Kirk. *Entomologist*, 1904, p. 280, n. nom.

Type, *G. spectans*, Walk.

Distribution. Tenasserim, Malay Peninsula, Sumatra.

"Head not or slightly narrower than pronotum; vertex

## NARAYANA.

transverse; eyes broad; face equally as long as broad or slightly longer than broad."

*Gelastyra* is also to be distinguished from the preceding genus *Delhina* by the different structure of the face, which is anteriorly truncate or subtruncate, not concave, posterior tibiae differently spined, &c.

No examples of the following two species have at present been received. Both are contained in the Genoa Museum and are at present unobtainable for comparison and illustration.

*GELASTYRA DIVERSA*, *Melich. Mon. Isiden*, p. 263 (1906).

*Hab.* Tenasserim; Thagata (*Genoa Mus.*).

*GELASTYRA LATIFRONS*, *Melich. l. c.* p. 264.

*Hab.* Burma.—Sumatra.

## Genus *NARAYANA*. (Vol. III, p. 349.)

*Camplopterum*, *Melich. Mon. Isiden*, p. 210 (1906)

Dr. Melichar had apparently come to an almost simultaneous conclusion with myself that his *Hysteropterum sellatum* represented an undescribed genus. I had previously described it as *Narayana sellata* (vol. iii, p. 350).

### 3258. *Narayana eliyana*, sp. n.

Head, pronotum, mesonotum, and tegmina virescent with blackish mottlings; in the first three these markings are speckles, but in the tegmina, where the veins are very prominent, these markings are more strongly represented especially in the clavus and apical halves, which are also interspersed with green spots. before middle a large blackish spot on costal area; body beneath ochraceous; face fuscous brown, with pale granules on the lateral and posterior margins; clypeus with the disk black; disk of abdomen beneath black; legs ochraceous, speckled with fuscous; head (including eyes) as wide as pronotum, vertex distinctly concave, with a central median line; face about as broad as long, moderately concave, its margins carinate; tegmina vertical, short and broad, apical margin wide and obliquely truncate.

Length  $5\frac{1}{2}$  millim.

*Hab.* Ceylon; Mt. Eliya.

### 3259. *Narayana fuscognata*, sp. n.

Vertex of head piceous, the margins ochraceous; face pale piceous, the margins ochraceous, with small blackish spots;



clypeus dark brownish with sublateral piceous marginal lines; pronotum ochraceous, more or less finely mottled with piceous; mesonotum piceous, the lateral margins ochraceous; body beneath and legs ochraceous, abdomen beneath with transverse black discal spots; tegmina ochraceous, the claval area paler and more greyish, two large black spots, one just above and the other at apex of clavus; head short, broad, including eyes as wide as pronotum; vertex moderately concave, broader than long with a central median line; face about as broad as long, slightly amply rounded towards clypeus, its margins carinate, its surface somewhat transversely wrinkled, a submarginal carination on each side truncately connected before anterior margin; pronotum anteriorly subangularly produced; tegmina vertical, short and broad, apical margin wide and obliquely truncate, the venation very prominent, and sparsely furnished with minute tubercles.

Length incl. tegm. 6 millim.

*Hab.* Ceylon; Peradeniya (*F. E. Green*).

**3260. *Narayana pundaluoyana*, sp. n.**

Ochraceous; tegmina somewhat prominently and well marked with bright piceous, consisting principally of small spots on basal area of costal margin, more or less on apical margin, a cluster of similar spots before apical angle, and linear spots on the discal veins, there are also suffusions of the same colour on costal membrane and claval area; vertex of head with a prominent central carination; pronotum indistinctly finely darkly punctate; mesonotum with piceous markings or spots; face brownish ochraceous with very distinct submarginal carinations truncately connected before anterior margin; clypeus purplish brown; tegmina very prominently veined; anterior femora with longitudinal brownish lines.

Length incl. tegm. 6 millim.

*Hab.* Ceylon; Pundaluoya (*Brit. Mus.*).

**3261. *Narayana fryeri*, sp. n.**

Vertex of head dull pale olivaceous with fuscous mottlings and a blackish anterior margin; pronotum dull greenish ochraceous with small brownish punctate spots near anterior and posterior margins; mesonotum fuscous, the anterior angles darker and with two small central pale spots near anterior margin; body beneath and legs fuscous brown, sternum with large greyish-white coxal spots and bases of femora narrowly of the same colour; tegmina with the basal area more or less blackish brown, about apical half dull greenish ochraceous, the veins with minute dark tubercles, a very large discal tomentose white spot near end of basal dark area and a less well-marked pale spot on claval margin; face large,

about as broad as long, slightly ampliatly rounded towards clypeus, its margins carinate, its disk somewhat transversely

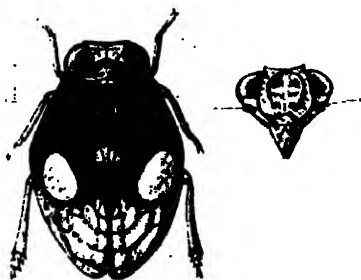


Fig. 74.—*Narayana fryeri*.

wrinkled, dull ochraceous, with brownish markings: clypeus brownish; inner tegminal margins concavely sinuate.

Length incl. tegm. 5 millim.

*Hab.* Ceylon; Maha Illupalama (*J. C. F. Fryer*).

Genus **MINCOPIUS**. (To follow NILALOHTA, Vol. III. p. 358.)

*Mincopius*, *Dist. A. M. N. H.* (8) iv, p. 81 (1909).

Type, *M. andamanensis*, *Dist.*

*Distribution.* Andaman Islands.

Head (including eyes) distinctly narrower than pronotum; vertex subquadrate, foveately depressed, the lateral margins ridged, the apex truncate; face about twice as long as broad, tricarinate, the central carination straight and robust, the lateral ones curved and not quite reaching base, basal margin angularly sinuate, posterior margin rounded before clypeus which is broad and not carinate; pronotum moderately short, transverse, anteriorly subconically produced between the eyes, basal margin truncate, the posterior lateral angles slightly rounded; mesonotum longer than pronotum, broadly triangular, centrally finely carinate; rostrum almost reaching the posterior coxæ; legs moderately long, posterior tibiæ with two spines, anterior tibiæ distinctly compressed and dilated; tegmina convexly oblique, a little longer than the abdomen, the costal margin a little concavely sinuate near middle, radial vein bifurcating at a short distance from base, upper longitudinal vein bifurcating slightly further on; the apical halves of tegmina possess numerous transverse veins, giving a subreticulate appearance.

3262. *Mincopius andamanensis*, *Dist. A. M. N. H.* (8) iv, p. 82 (1909).

Brownish ochraceous, speckled and marked with darker brown; tegmina with the veins reddish and with some moderately indistinct angulate dark brown markings at and behind middle; clypeus black, its lateral margins flavous; sternum and base of

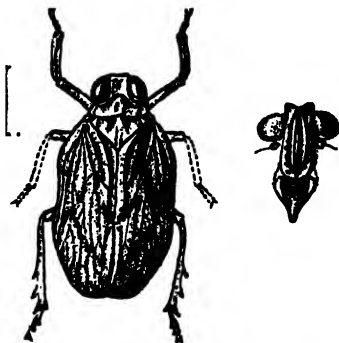


Fig. 75.—*Mincopius andamanensis*.

abdomen pale and more stramineous than above, remainder of abdomen a little darker than above; legs speckled with castaneous; pronotum finely granulose; mesonotum centrally subtriangularly depressed; other structural characters as in generic diagnosis.

Length incl. tegm.  $8\frac{1}{2}$  millim.

*Hab.* Andaman Islands (*G. Rogers*).

### Genus **LOLLIUS**.

*Lollius*, *Stål, Hem. Afr.* iv, p. 209 (1866); *id. Öfv. Vet.-Ak. Förh.* 1870, p. 762; *Melich. Mon. Issiden*, p. 193 (1906).

Type, *L. australicus*, *Stål*, from Australia.

*Distribution.* Malay Archipelago, Australia, Seychelle Islands.

? *LOLLIUS FURCIFER*, *Stål, Öfv. Vet.-Ak. Förh.* 1870, p. 762; *Melich. Mon. Issiden*, p. 196 (1906).

I have not met with an example of this genus in any of the numerous collections received from British India. *Lollius furcifer* was described by *Stål* from the Philippines, where it is not an uncommon species. Dr. *Melichar (supra)* has given a wider range of localities, including "Nicobar," which represents a section of the faunistic area described in these volumes.

## GERGITHUS.

### Genus **GERGITHUS.**

*Gergithus*, Stål, Öfo. Vet.-Ak. Förh. xxviii, p. 756 (1870); *Melich. Mon. Issiden*, p. 58 (1906).

*Hemisphaerius*, *Melich. Hom. Faun. Ceylon*, p. 74 (1903).

*Hemisphaerius*, part., *Dist.* vol. iii, p. 359.

Type, *G. schaumii*, Stål.

*Distribution.* Oriental and Malayan Regions; Japan and China\*.

This genus is to be separated from *Hemisphaerius* by the very elongate face, the lateral margins of which are continuous with the lateral margins of the clypeus. This appears to be the salient character of the genus when examined through a long series of species.

The description, founded on a Ceylon species, is published in a footnote to Stål's "Hemiptera insularum Philippinarum," and was overlooked by both Melichar and myself when working out the Ceylonese species; we then considered that all the species could be placed under one genus.

#### 3263. *Gergithus erebus*, sp. n.

Body above shining black; the margins of vertex broadly ochraceous; body beneath and legs ochraceous; face virescent, with a broad central sanguineous longitudinal fascia and the extreme lateral margins ochraceous; clypeus centrally pale virescent, with narrow submarginal sanguineous fasciæ; femora and



Fig. 76. —*Gergithus erebus*.

tibiæ with more or less distinct black linear markings, anterior tarsi, apices of intermediate and posterior tarsi and spines to posterior tibiæ, black; tegmina thickly finely pilose; face elongate, about twice as broad as long, medially moderately amplified;

\* Melichar (*Mon. Issiden*, p. 62) has described a species, *G. vidulus*, as from "Südafrika: Pondicherry," a locality which prevents recognition.

pronotum short, the division between its posterior margin and the base of mesonotum deeply incised.

Length incl. tegm.  $4\frac{1}{2}$  millim.

*Hab.* South India; Kodaikanal (*T. V. Campbell*).

**3264. *Gergithus proteus*, sp. n.**

Above dull ochraceous, pronotum black, mesonotum opaline green, sometimes ochraceous; tegmina with the disk suffused with black, apical area paler, extreme margin and a submarginal narrow line black; face opaline green, a central longitudinal fascia and the extreme lateral margins sanguineous; clypeus green with submarginal sanguineous lines.

*Var. a.* Anterior subcostal margin of tegmina broadly black between the reticulate veins.

*Var. b.* Body above virescent, the pronotum purplish red.

Apices of tibiae, the tarsi, and spines to posterior tibiae more or less black; face elongate, about twice as long as broad, moderately medially dilated; pronotum very short, the division between deeply incised.

Length incl. tegm.  $4-4\frac{1}{2}$  millim.

*Hab.* South India; Kodaikanal (*T. V. Campbell*).

**3265. *Gergithus cribratus*, Melich. Mon. Issiden, p. 64 (1906).**

Virescent in fresh specimens, in others pale brownish; the mesonotum brighter opaline green; body beneath and legs virescent; a spot on each posterior angle of the face before clypeus, apex of clypeus, and basal and apical spots to femora, black; face and clypeus with two very faint central testaceous lines, almost unicolorous; tegmina thickly coarsely punctate; pronotum somewhat tuberculose; mesonotum with two strong discal carinations; face long, much narrower between eyes than before base of clypeus.

Length incl. tegm. 5 to 6 millim.

*Hab.* Ceylon; Maha Illupalama (*J. C. F. Fryer*).

Apart from slight colour differences, this species seems to be the one described by Melichar from Pattipola in Ceylon.

**3266. *Gergithus versicolor*, sp. n.**

Virescent; vertex and mesonotum more opaline green; the latter with the anterior margin and a raised central fascia testaceous; face and clypeus opaline green with two central longitudinal sanguineous fasciæ, a black spot at apices of femora; tegmina with black costal markings consisting of two basal streaks, followed by three spots, the largest oblique and situate about middle, apical margin very narrowly black; tegmina thickly finely

punctate; lateral margins of vertex strongly ridged; extreme anterior margin of mesonotum black; face long, between eyes narrower than before clypeus; tarsi brownish ochraceous.

Length incl. tegm.  $4\frac{1}{2}$  millim.

*Hab.* Ceylon; Maha Illupalama (*J. C. F. Fryer*).

**3267. *Gergithus complicatus*, sp. n.**

Ochraceous, much tessellated and marked with dark castaneous brown; vertex of head with four castaneous spots; a transverse anterior fascia to pronotum and a central longitudinal fascia to mesonotum, the latter with a small spot on each side, castaneous; face and clypeus ochraceous, with two central longitudinal fasciæ and the margins of the first before clypeus castaneous; anterior and intermediate femora and tibiæ streaked with castaneous;

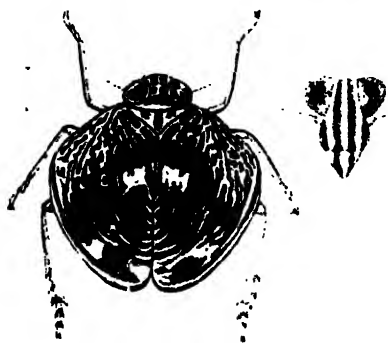


Fig. 77.—*Gergithus complicatus*.

tegmina much shaded and spotted with castaneous between the veins, but with a prominent pale spot on each tegmen near middle of inner margin and paler also on apical area; face much longer than broad, considerably narrower at anterior margin than before clypeus; lateral margins of vertex distinctly ridged; posterior femora with two subapical spines.

Length incl. tegm. 5 millim.

*Hab.* Ceylon; Peradeniya (*J. C. F. Fryer*), Kandy (*E. E. Green*), Haïdamulla.

**3268. *Gergithus conspicularis*, sp. n.**

Vertex of head testaceous, the lateral margins virescent; pronotum virescent with testaceous mottlings; mesonotum opaline green with the anterior margin and a central fascia testaceous; tegmina with the whole inner area brownish ochraceous spotted with black, the outer and apical areas paler, basal half of costal area obliquely spotted with black, with two much larger black

spots on apical area, the outermost long and oblique, the innermost more or less rounded, extreme apical margin narrowly black; face and clypeus opaline green with two broad sanguineous longitudinal fasciæ; legs greenish ochraceous, the femora spotted at base and apex with black; body beneath with sanguineous transverse markings; face considerably longer than broad, narrower at anterior margin than before clypeus.

Length incl. tegm. 5 millim.

*Hab.* Ceylon; Maha Illupalama (*J. C. F. Fryer*).

The following species described under, or referred to *Hemisphærius* must now be relegated to the genus *Gergithus*:—

*Gergithus secundus* = *Hemisphærius secundus*, Melich. (vol. iii, p. 360).

*Gergithus schaudi* = *Hemisphærius schaudi*, Stål (vol. iii, p. 361).

*Gergithus nilgiriensis* = *Hemisphærius nilgiriensis* Dist. (vol. iii, p. 361).

*Gergithus reticulatus* = *Hemisphærius reticulatus*, Dist. (vol. iii, p. 361).

*Gergithus elongatus* = *Hemisphærius elongatus*, Dist. (vol. iii, p. 362).

*Gergithus bipustulatus* = *Hemisphærius bipustulatus*, Walk. (vol. iii, p. 362).

*Gergithus dubius* = *Hemisphærius dubius*, Butl. (vol. iii, p. 362).

*Gergithus herbaceus* = *Hemisphærius herbaceus*, Kirby (vol. iii, p. 363).

*Gergithus venosus* = *Hemisphærius venosus*, Dist. (vol. iii, p. 363).

The following species I have not seen. The description is published in Melichar's 'Monographie der Issiden' (October 1906); my descriptions in this series were published in February 1906. They may, or may not, in some cases be synonyms.

*Gergithus imotus*, Melich. Mon. Issiden, p. 66 (1906).

*Hab.* Pegu; Palon.

### Genus **HEMISPHERIUS**. (Vol. III, p. 359.)

The following species have been described by Dr. Melichar, but regarding the near dates of our previous descriptions, and the consequent danger of synonymy, as well as the impossibility of seeing types or typical specimens during the present European war, I can only call attention to the descriptions.

*Hemisphærius ruficeps*, Melich. Mon. Issiden, p. 74 (1906).  
Burma; Karen-ni.

*Hemisphærius flavovariegatus*, Melich. l. c. p. 79. East India.

*Hemisphærius frontalis*, Melich. l. c. p. 87. Nilgiri Hills.

*Hemisphærius cinctus*, Melich. l. c. p. 91. Burma; Karen-ni.  
*Hemisphærius bijeminus*, Melich. l. c. p. 96. Burma.

3269. *Hemisphærius noctis*, sp. n.

Above shining-black; eyes ochraceous; face black; clypeus ochraceous with two darker longitudinal fasciæ; body beneath and legs ochraceous with some darker mottlings; tegmina thickly finely punctate; face broad, much narrower at anterior margin than before clypeus, posteriorly about as broad as long.

Length incl. tegm. 4 millim.

*Hab.* Ceylon; Maha Illupalama (*J. C. F. Freyer*).

3270. *Hemisphærius fusco-clypeatus*, sp. n.

Pale dull ochraceous; eyes and a discal spot to tegmina black; clypeus fuscous brown; body beneath and legs brownish ochraceous; anterior and intermediate tibiæ and tarsi blackish; face about as long as broad, much narrower anteriorly than posteriorly, anterior and posterior margins truncate; the tegmina immediately above the body reflect its shadow and there appear distinctly darker.

Length incl. tegm. 3 millim.

*Hab.* Ceylon; Peradeniya (*J. C. F. Freyer*).

3271. *Hemisphærius atromaculatus*, sp. n.

Vertex of head and pronotum testaceous; mesonotum black with a central longitudinal ochraceous fascia; face testaceous; clypeus ochraceous with its anterior margin black; body beneath and legs dark ochraceous; tegmina ochraceous, with four large discal spots, claval margin, and two anterior sublateral fasciæ black; vertex finely punctate at base; pronotum finely transversely striate.

Length incl. tegm. 4 millim.

*Hab.* Ceylon; Peradeniya (*E. F. Green*).

Genus **HILDA**.

Isthmia, *Walk. List Hom.* iii, p. 732 (1851); *Stål, Hem. Afr.* iv, p. 218 (1866); nom. præoce.

Hilda, *Kirk. Entomologist*, 1900, p. 243, n. nom.

Egropa, *Melich.* (vol. iii, p. 308).

Type, *H. undata*, Walk., an Ethiopian species.

*Distribution.* Ethiopian, Oriental, and Malayan Regions.

Body suboblong, depressed; head (including eyes) narrower than the pronotum, vertex broader than long, anteriorly rounded, behind eyes distinctly callose, the anterior margin flattened, acute,



the disk moderately concave; face transverse, reaching eyes, usually with a small discal central well-developed tubercle; antennæ robust, the second joint oval; pronotum with the basal margin truncate, much broader than long; scutellum nearly twice as long as pronotum; tegmina somewhat short and broad, the apex rounded, passing the abdominal apex, lateral margins subparallel, veins somewhat indistinct, especially so on apical area; legs short, posterior tibiæ unarmed.

In the Ethiopian species the vertex is usually longer than in those from the eastern regions.

3272. *Hilda tenasserimensis*, sp. n.

Head, pronotum, and scutellum pale green; extreme anterior margin of vertex almost continuously black; a broad posterior margin to pronotum and the apex of the scutellum purplish red; face pale greyish ochraceous, three prominent black spots at basal margin which is also black, the discal tubercle and the body beneath and legs more ochraceous, the bases of the femora paler; tegmina purplish red strongly tinged and marked with greenish,

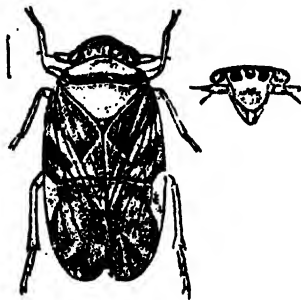


Fig. 78.—*Hilda tenasserimensis*.

a large prominent angulated greyish spot behind middle, at this region the tegmen is crossed by an irregular greenish transverse fascia behind which are two distinct transverse purplish-red lines, clavus streaked with greenish; near inner margins of apical area a longitudinal series of three black spots with white centres, the apical area more brownish ochraceous; central tubercle to face prominent and well defined; vertex finely callose near basal margin; scutellum smooth, apically deflected.

Length incl. tegm.  $5\frac{1}{2}$  millim.

*Hab.* Tenasserim; Myitia (*Doherty*).

3273. *Hilda bengalensis*, *Dist. A. M. N. H.* (8) iii, p. 41 (1909).

Vertex, pronotum, and scutellum pale green, extreme apical

margin of vertex almost continuously black; pronotum with the margins testaceous; basal area of face between the eyes black, with four prominent small white spots, in some specimens the spots near the eyes are obsolete and only the two central spots are visible, this black area margined posteriorly with greyish white; clypeus, body beneath, and legs ochraceous; tegmina pale testaceous, basal half of clavus castaneous with an apical white margin, and this dark area outwardly continued on corium, with a large whitish spot varying in size and shape, corium also crossed beyond middle by a whitish transverse fascia narrowly margined with black and broadly angulated on each side at costal margin,

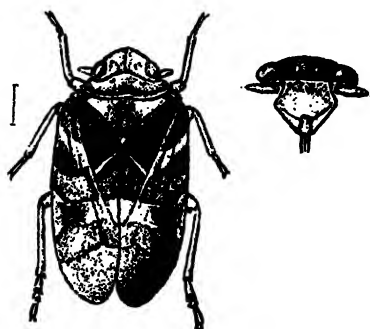


Fig. 79. *Hilda bengalensis*, var.

apical area a little paler in hue and inwardly defined and margined by a waved pale greyish line, and preceded near suture by a dark spot containing one or more small pupillate white spots: wings hyaline; face strongly transversely impressed between the insertions of the antennae, medially angulate, the lateral margins before the angulation moderately concave: vertex with a distinct longitudinal impression.

*Tars.*—Becoming darker in hue, the pale green coloration replaced by dark testaceous, and with a large piceous or dusky spot in the white subbasal spot to corium and in the postmedial transverse whitish fascia to same.

Length incl. tegm. 5–5½ millim.

*Hab.* Bengal; Pusa, Muzaffarpur, Barisal.

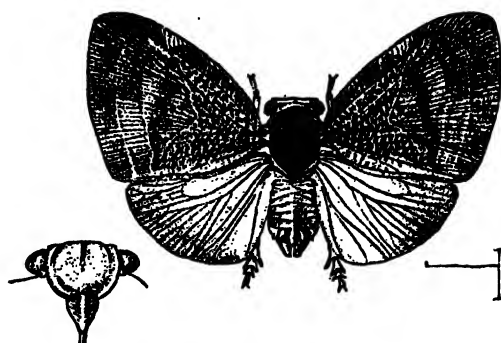
Allied to *H. malayensis*, Dist., from which it differs by the longitudinally impressed vertex, the angulate face, concolorous legs, partial or complete absence of the ocellate spots on apical area of tegmina, &c.

**HILDA INUSTA** to replace *Egyopa inusta*, Melich. (Vol. III, p. 368).

## Subfamily RICANIINÆ. (Vol. III, p. 369.)

Genus **POCHAZIA**. (Vol. III, p. 370.)3274. *Pochazia pipera*, *Dist. A. M. N. II.* (8) xiii, p. 420 (1914).

Head and pronotum brownish ochraceous, mesonotum black, exposed margins of metanotum ochraceous; abdomen testaceous; body beneath and legs ochraceous; tegmina pale bronzy-brown, two pale transverse lines before apex and a much inwardly angulated line near middle, from this line to base the surface is much

Fig. 80.—*Pochazia pipera*.

mottled with small paler and darker spots, a small black spot near apical angle and a subtriangular pale spot near apex of costal membrane; wings very pale bronzy-brown; mesonotum with five carinate lines, the central one straight, on each side of which is an inwardly and anteriorly curved line which bifurcates near middle; apical margin of tegmina larger than inner margin; face broad, centrally carinate, the carination becoming almost obsolete towards clypeus; posterior tibiæ with two spines.

Length excl. tegm. 6; exp. tegm.  $19\frac{1}{2}$  mm.

*Hab.* Malabar Distr.; Taliparansbas (*T. Bainbrigge Fletcher, Brit. Mus.*).

“On Pepper plant.”

3275. *Pochazia mamyona*, sp. n.

Vertex of head dull ochraceous; pro- and mesonota black, anterior and lateral margins of the first narrowly ochraceous; abdomen black, more or less covered with greenish pubescence; face dull ochraceous, the lateral margins and central carination paler; clypeus flavous; body beneath black, more or less pubescent; legs ochraceous; tegmina pale fuscous with a more or less

dull olivaceous tint, much mottled with small paler spots, two obscure darker transverse fasciæ beyond middle, the innermost dilated towards costal area, a distinct black spot near apical angle; wings fuliginous, the veins much darker; vertex very short, centrally and marginally ridged; pronotum centrally carinate; mesonotum tricarinate, the outer carinations inwardly forked beyond middle; face centrally and laterally carinate; tegmina with the apical margin longer than the inner margin.

Length excl. tegm. 6; exp. tegm. 19-20 millim.

*Hab.* Upper Burma; Mamyo, 500 ft. (*T. Bainbrigge Fletcher*).

**Genus RICANIA.** (Vol. III, p. 375.)

**RICANIA FENESTRATA.** (Vol. III, p. 376, fig. 194.)

Add: *Hab.* North Coorg; Santikoppa (*T. Bainbrigge Fletcher*).

**RICANIA MARGINALIS.** (Vol. III, p. 376.)

Add: *Hab.* North Coorg; Santikoppa (*T. Bainbrigge Fletcher*).  
Bengal; Dacca; Bombay (*Pusa Coll.*).

**3276. Ricania minbuensis, sp. n.**

Vertex of head and pronotum ochraceous, the latter with the disk sometimes darker; mesonotum black, more or less greenly pubescent; abdomen above ochraceous; body beneath and legs ochraceous, some black sternal spots; tegmina dull pale ochraceous, costal membrane darker ochraceous, radial area black or blackish, apical margin somewhat broadly pale brownish ochraceous, preceded by a similarly coloured transverse fascia which is dilated and slightly broken above middle; wings pale fuliginous, the apical margin darker; vertex short and broad, medially and laterally carinate; pronotum centrally carinate; mesonotum tricarinate, the lateral carinations inwardly forked near middle; face broader than long, centrally and laterally carinate.

Length excl. tegm. 5; exp. tegm. 17 millim.

*Hab.* Upper Burma; Minbu (*T. Bainbrigge Fletcher*).

Allied to *R. simulans*, Walk. (vol. iii, p. 378).

**3277. Ricania obliqua, Walk. (Pochazia), List Hom. ii, p. 129 (1851);**  
*Stål* (Ricania), *Öfr. Vet.-Ak. Förh.* 1862, p. 591.

Vertex of head and abdomen above pitchy-brown; pronotum and mesonotum black; face, clypeus, and legs ochraceous; body beneath pitchy-brown or blackish; tegmina pitchy-brown, with two transverse pale fasciæ, the innermost near middle and not extending above radial area, the outermost strongly sinuate and near apical area, a greyish-white spot near end of costal membrane; wings very pale fuliginous, the outer margin somewhat broadly fuliginous, narrowing towards anal area; vertex of head with four

longitudinal ridges; pronotum centrally ridged; mesonotum tricarinate, the outer carinations anteriorly bifurcate; face centrally

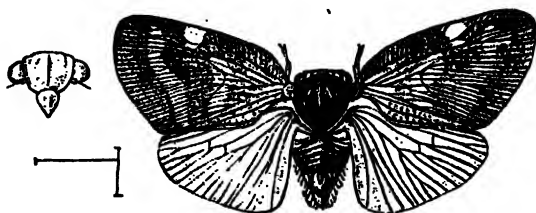


Fig. 81.—*Ricania obliqua*.

carinate, a very short anterior longitudinal carination on each side before eyes.

Length excl. tegm. 6–6½; exp. tegm. 21–22 millim.

Hab. Nepal.

Walker's type in the British Museum was unlocalized.

3278. *Ricania densa*, Walk. Journ. Linn. Soc., Zool. x, p. 151 (1870);  
*Melich. Ann. Hofmus. Wien*, xiii, p. 335 (1898).

Vertex, pronotum, and mesonotum deep shining black; abdomen above piceous brown; face piceous or black, the lateral margins paler; sternum black or piceous, legs ochraceous; abdomen beneath piceous brown; tegmina more or less glossy black with a somewhat distinct fascia near middle; wings fuliginous, the veins darker; vertex short; face much broader than long, tricarinate, the lateral carinations abbreviated posteriorly\*; pronotum centrally carinate; mesonotum tricarinate, the lateral carinations forked anteriorly and united to the apex of the central carination; wings with one transverse vein; apical angles of tegmina rounded.

Length excl. tegm. 4; exp. tegm. 13½ millim.

Hab. Upper Burma; Tatkon (*T. Bainbrigge Fletcher*).—Flores (*Wallace*).

Allied to *R. fumosa*, Walk. (vol. iii, p. 382).

On sugar-cane.

3279. *Ricania tisiphone*, sp. n.

Vertex, pronotum, and mesonotum black; abdomen piceous brown, subapically and broadly annulated with black; face black or piceous brown, the lateral margins paler; clypeus piceous brown, its apex more or less ochraceous; abdomen beneath a little paler than above; sternum suffused with piceous; legs ochraceous; tegmina piceous, finely mottled with dark ochraceous; the costal and apical areas more black, the first with its extreme margin

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\* Walker wrote "face piceous, not keeled," which is incorrect.

finely spotted with ochraceous, the latter with its extreme margin a little more largely ochraceously maculate, two dark transverse fasciæ near middle, the outermost traversed by an ochraceous line, a similar line also divides the black apical area; wings fuliginous, the veins darker; vertex short, centrally and marginally carinate; pronotum centrally carinate; mesonotum tricarinate, the lateral carinations inwardly forked near middle and joining the central carination at its apex; face tricarinate; apical angles of the tegmina subangulate.

Length excl. tegm. 5; exp. tegm. 15 millim.

*Hab.* Upper Burma; Pyinmana (*T. Bainbrigge Fletcher*).

3280. *Ricania coorgensis*, sp. n.

Vertex, pronotum, and mesonotum piceous or black; anterior and posterior margins of pronotum with linear, transverse, bluish-grey spots; abdomen above fuscous brown, much paler at base, some bluish-grey spots on apical area; face dark fuscous brown, a few bluish-grey spots on anterior margin, and a bright pale castaneous spot at each anterior angle; clypeus pale castaneous; body beneath black or blackish; legs ochraceous; tegmina fuscous brown, a minute white spot near end of radial area and a black tuberculate spot near apical angle; wings pale fuscous brown, the veins darker; vertex short and broad, centrally carinate; pronotum centrally carinate; mesonotum tricarinate, the lateral carinations forked inwardly from about middle and reaching the apex of the central carination; face tricarinate, the carinations faint; wings with two transverse veins; apices of tegmina roundly angulate.

Length excl. tegm. 6; exp. tegm. 17-18 millim.

*Hab.* S. India; North Coorg, Santikoppa (*T. Bainbrigge Fletcher*).

(Genus **RICANOPTERA**. (Vol. III, p. 382.)

3281. *Ricanoptera variegata*, *Dist. A. M. N. H.* (s) ix, p. 651 (1912).

Vertex of head, pronotum, and mesonotum blackish, more or



Fig. 82.—*Ricanoptera variegata*.

less thickly covered with greenish or greenish-ochraceous pubescence; abdomen above, body beneath, and legs ochraceous;

tegmina with about the basal fourth greenish pubescent, central area greyish suffused with blackish and containing a prominent central black spot, apical area more distinctly piceous, costal margin ochraceous spotted with black; wings very pale fuliginous, the veins a little darker; posterior tibiæ with two spines; vertex of head narrow, transverse, its anterior angles shortly spinous before eyes; pronotum centrally carinate; mesonotum tricarinate, the outer carinations bifurcate anteriorly.

Length excl. tegm.  $5\frac{1}{2}$ ; exp. tegm. 17 mm.

*Hab.* Ceylon; Puttalam (*Green, Brit. Mus.*).

Allied to *R. opaca*, Dist.

### 3282. *Ricanoptera ramakrishna*, sp. n.

Vertex and pronotum fuscous brown; mesonotum black; abdomen above black with a virescent basal annulation; face and clypeus brownish ochraceous; sternum ochraceous with black suffusions, abdomen beneath greenish ochraceous; legs ochraceous; tegmina with the basal area brownish ochraceous with darker mottlings, the apical area more darkly fuscous, basal portion of costal margin ochraceous, with a somewhat large greyish marginal spot near apex of costal membrane; wings very pale fuliginous with the veins darker; head with the vertex short and broad, centrally carinate; pronotum centrally carinate with a small foveate spot on each side; mesonotum tricarinate, the lateral carinations inwardly forked near middle and connected with the apex of the central carination; face broader than long, strongly centrally carinate; tegmina with the apical angles roundly subangulate.

Length excl. tegm. 5; exp. tegm. 17 millim.

*Hab.* Coimbatore Distr.; Bailur Forest (*Ramakrishna*).

### 3283. *Ricanoptera mackenziei*, sp. n.

Vertex of head brownish ochraceous or pale fuscous, the margins and central carination testaceous; pronotum and mesonotum black, the first with the anterior margin and central carination testaceous; abdomen above black, the segmental margins testaceous, the base suffused with ochraceous; face and clypeus brownish ochraceous, the margins and carinations to the first, and a central fascia to the latter, testaceous; sternum blackish; abdomen beneath as above; legs ochraceous; tegmina blackish, base of costal membrane and a large spot near end of same, an abbreviated transverse fascia near middle, an irregular and broken transverse fascia before apical marginal area, and the claval area ochraceous, the latter mottled with black; wings very pale fuliginous, the veins and apical area darker; face broader than long, tricarinate, the lateral carinations less pronounced; vertex and pronotum centrally carinate; mesonotum tricarinate, the lateral carinations forked near middle and reaching the apex of the

## APACHNAS.

central carination; tegmina with the apical angles rounded; wings with two transverse veins.

Length excl. tegm. 5; exp. tegm. 16 millim.

*Hab.* Chapra; Bihar (*Mackenzie*).

### 3284. *Ricanoptera phalæna*, sp. n.

Vertex of head ochraceous with a black spot before each eye; pronotum and mesonotum black; abdomen black, the segmental margins and a basal annulation virescent; face obscure ochraceous, blackish before clypeus which is ochraceous with its lateral margins broadly blackish; sternum black; tegmina greyish, subhyaline, costal membrane, apical margin, and four irregular discal spots black, about basal half of costal membrane ochraceous, a spot near end of same greyish; claval area mottled with fuscous;



FIG. 83. *Ricanoptera phalæna*.

wings subhyaline, the veins and apical margins darker; vertex and pronotum centrally carinate; mesonotum tricarinate, the lateral carinations forked inwardly near middle and reaching apex of central carination; face broader than long, centrally and laterally carinate; tegmina with the apical angles rounded; wings with two transverse veins.

Length excl. tegm.  $4\frac{1}{2}$ ; exp. tegm.  $14\frac{1}{2}$  millim.

*Hab.* Coimbatore District; Bailur Forest (*Ramakrishna*).

Genus **EURICANIA**. (Vol. III, p. 385.)

**EURICANIA OCELLUS**. (Vol. III, p. 385.)

Add: *Hab.* Phoohsering, Lebong (*H. M. Lafroy*).

Genus **APACHNAS**.

(To follow **PRIVESA**, Vol. III, p. 386.)

*Apachnas*, *Dist. A. M. N. H.* (8) iv. p. 330 (1909).

Type, *A. nobilis*, *Dist.*

*Distribution.* Nilgiri Hills.

Vertex short, broadly transverse, the eyes considerably extending over the lateral margins of the pronotum; face about as



long as broad, the posterior lateral margins obliquely directed to clypeus, tricarinate, the central carination straight, the lateral carinations moderately oblique; clypeus finely medially carinate; pronotum broader than vertex, centrally carinate; mesonotum tricarinate, the lateral carinations anteriorly curved inwardly and outwardly doubly attached to the anterior margin, by a longitudinal carinate line from near middle and by a shorter line near anterior margin; posterior tibiæ with two strong spines on apical area; tegmina and wings hyaline; tegmina with the costal and apical margins subequal in length, each much longer than the inner margin and with the costal membrane a little narrower than the radial area, with five transverse veins close together at base and three (wide apart) between base and stigma, which contains about seven oblique transverse veins; basal cell emitting three longitudinal veins from its outer margin, which are connected by transverse veins at about one-fourth from base, a second series of transverse veins and a subapical series of transverse veins, together enclosing four series of cells; there is also a continuous series of submarginal transverse veins, defining a narrow marginal area; clavus with the claval vein connected with the inner and posterior margins by two short oblique veins at a little before middle, followed by about four transverse veins somewhat wide apart.

3285. *Apachnas nobilis*, *Dist. A. M. N. H.* (8) iv, p. 331 (1909).

Body and legs olivaceous; tegmina hyaline, the venation, interspaces between the basal transverse veins of costal membrane, stigma, a spot immediately beneath it with a pale centre, and costal margin from stigma to about one-fourth of apical margin,

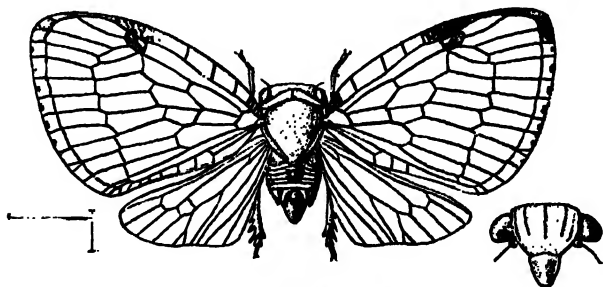


Fig. 84.—*Apachnas nobilis*.

fuscous brown, a series of small pale fuscous apical marginal spots, this marginal area a little darker than the discal colour of the tegmen; wings hyaline, the venation fuscous; structural characters as in generic diagnosis.

Length excl. tegm.  $6\frac{1}{2}$ ; exp. tegm. 22 millim.

*Hab.* Nilgiri Hills; N. slope, 3300 ft. (*Sir G. Hampson*).

Genus **SASSULA** to replace **DETYA**. (Vol. III, p. 387.)

*Sassula*, Stål, *Öfv. Vet.-Ak. Förh.* 1870, p. 709.

Type, *S. osmyloides*, Walk., from the Malay Archipelago.

**SASSULA SORUCULA**, to replace *Detya fusconebulosa* (Vol. III, p. 388).

*Miriza sorucula* Stål, *Öfv. Vet.-Ak. Förh.* 1865, p. 164.

*Sassula sorucula*, *Melich. Ann. Hofmus. Wien*, xiii, p. 312, t. xii. f. 5, & t. xiv, f. 19 (1898).

*Detya fusconebulosa*, *Dist.* (vol. iii, p. 388).

Add: *Hab.* Cambodia.

Genus **GÆTULIA**. (Vol. III, p. 394.)

The late Mr. Kirkaldy (Rep. Exp. Stat. Haw. Plant. Assoc. iii. p. 98, 1907) wrote:—"Distant states that the head is considerably narrower than the pronotum. This is incorrect as a generic character, for in *G. chrysopoides* the eyes project very slightly beyond the pronotum; Distant's figure also scarcely bears out his diagnosis; moreover, the clypeus is *not* carinate, as, indeed, Stål also states." This pronouncement of Kirkaldy was unfortunately inaccurate and misleading.

1. That the head considerably narrower than the pronotum "is incorrect as a generic character" is an amazing remark when the accurate figure of the Neotropical type (*G. plenipennis*, Walk. = *pulibunda*, Stål) given by Fowler (Biol. Centr.-Am., Rhynch.-Hom. i. t. viii. fig. 13) was available for consultation by one who was evidently unacquainted with the species. The Australian species *Ricania chrysopoides*, Walk., which Kirkaldy referred to as typical of *Gætulia*, has been so placed by none but himself; Melichar, in his Monograph (not having seen the species), merely remarks "Scheint zur Gattung *Gætulia* zu gehören."

2. Stål did not state that "the clypeus is *not* carinate," but "clypeus lateribus haud carinatis." The clypeus in the type is strongly centrally carinate, and laterally, in my opinion, also finely carinate; in the *chrysopoides*, Walk., it is distinctly so.

I have (A. M. N. H. (8) iv, p. 337, 1909) proposed the genus *Nurunderia* for the reception of *chrysopoides*, Walk.

3286. *Gætulia montana*, *Dist. A. M. N. H.* (8) ix, p. 651 (1912).

Body and legs dull virescent or greenish ochraceous; anterior margin of vertex narrowly piceous; abdomen above with a transverse fascia before middle, followed by a broken longitudinal

fascia, piceous ; legs and rostrum more ochraceous than virescent ; tegmina and wings hyaline, the venation fuscous, the tegmina with a somewhat large and distinct fuscous marginal spot at end of costal membrane, the wings with a distinct fuscous spot at apex of abdominal area ; anterior margin of vertex angulate, the apices

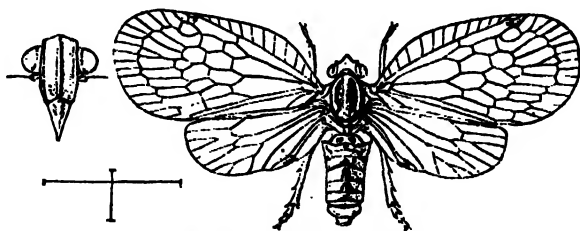


Fig. 85.—*Gætulia montana*.

of its lateral margins angularly prominent : mesonotum distinctly longitudinally tricarinate ; face much longer than broad, the lateral margins nearly subparallel ; tegmina with the costal membrane distinctly arched and broad, narrowed at base and apex.

Length excl. tegm. 5 ; exp. tegm. 17 millim.

*Hab.* E. Himalayas ; Kurseong, 5000 ft. ; Darjiling, 6000 ft. (*Brit. & Ind. Mus.*).

Allied to *G. nigrovenosa*, Melich., but the face longer and its lateral margins nearly straight, not widened towards clypeus : the fuscous spot to wings sometimes absent.

### Subfamily FLATINÆ. (Vol. III. p. 397.)

#### SALURNIS MARGINELLUS. (Vol. III, p. 418.)

Mr. J. C. Kershaw (*J. Bomb. N. II. Soc.* xxi. p. 607, 1912, Pl. A. figs. 1 and 6) has given the particulars of the development of this species from the egg.

#### Genus NEOSALURNIS.

*Neosalurnis*, *Dist. A. M. N. II.* (8) v, p. 311 (1910).

Type, *N. reticulatus*, *Dist.*

*Distribution.* North India ; Burma.

Head (including eyes) a little narrower than pronotum, vertex about as long as pronotum, somewhat broadly, angularly, and a little upwardly produced ; face longer than broad, a little posteriorly and more strongly anteriorly narrowed, the lateral margins from a little in front of eyes to clypeus broadly laminately ridged, at base with a very short central carination ; clypeus shorter than

face, obscurely obliquely striate on each side; pronotum with a central longitudinal ridge; mesonotum tricarinate; legs of moderate length, tibiae sulcate, posterior tibiae with one spine near apex; tegmina less than twice as long as broad, the costal margin moderately convex, the apex rounded, the apical margin obliquely truncate, its posterior angle more or less acutely produced, costal membrane narrower than radial area, the first transversely veined, the latter reticulately veined, the whole tegmen transversely reticulately veined, and a series of longitudinal marginal cells more or less continuous with the costal membrane extending round apex and along apical margin, clavus coarsely granulose; wings about as broad as tegmina, two transverse veins before apical area.

This genus is allied to *Salurnis*, Stål, from which it principally differs by the venation of the tegmina, and by the costal and apical marginal series of short longitudinal cells.

3287. *Neosalurnis reticulatus*. *Dist. A. M. N. H.* (s) v. p. 311 (1910).

Head, pronotum, mesonotum, sternum, legs, abdomen beneath, and tegmina greenish ochraceous, abdomen above slightly greyish tomentose; wings milky-white, the veins greenish; apical and sutural margin (beyond clavus) of tegmina finely spotted with

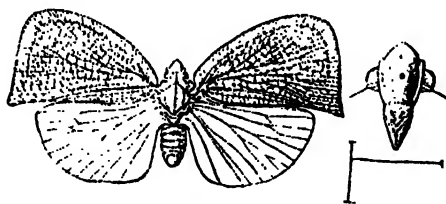


Fig. 86.—*Neosalurnis reticulatus*.

fuscous brown, posterior margin of clavus more or less fuscous brown; tegmina with all the veins distinctly prominent and a little darker in coloration; other structural characters as in generic diagnosis.

Length excl. tegm. 8; exp. tegm. 24 millim.

*Hab.* Bhutan (*Brit. Mus.*). Burma: Karen Hills (*Doherty*).

Genus **SUMMANUS**, nov.

Type, *S. indicus*, Dist.

*Distribution.* South India; Bombay.

Head (including eyes) a little narrower than pronotum, vertex angularly produced in front of eyes, the apex subconical; face much narrowed anteriorly, less narrowed towards clypeus, broadest

between eyes; pronotum slightly shorter than vertex, the lateral margins moderately ampliate, anteriorly truncate, both vertex and pronotum faintly centrally carinate; mesonotum tricarinate; tegmina short and broad, much less than twice as long as broad, gradually broadened from base, the apex broadly rounded, costal membrane transversely veined and continuous with the apical margin, the posterior angle not produced, inner margin straight, the apical area irregularly transversely veined, claval area strongly granulate; wings narrower and shorter than tegmina, with two transverse veins near apex.

To be placed near *Pulaha*, Dist. (vol. iii, p. 419).

3288. *Summanus indicus*, sp. n.

Vertex, pronotum and mesonotum dark virescent; abdomen above more ochraceous, segmental margins black, basal area greyishly tomentose; face virescent, remainder of body beneath and legs greenish ochraceous; tegmina virescent, costal and apical margins

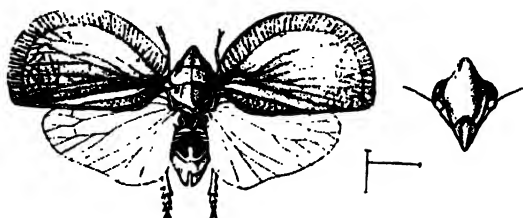


Fig. 87.—*Summanus indicus*.

very narrowly shaded with a pink tint; wings milky-white; structural characters as in generic diagnosis.

Length excl. tegm.  $5\frac{1}{2}$ ; exp. tegm. 14 millim.

*Hab.* South India; Nandidrug (*T. V. Campbell*). Bombay (*Dixon & T. Bainbrigge Fletcher*).

In spirit specimens the virescent coloration appears as ochraceous.

Genus **SATAPĀ**. (Vol. III, p. 426.)

3289. *Satapa tuberculosa*, Dist. *A. M. N. H.* (8) xiii, p. 421 (1914).

Body and legs dull dark ochraceous; mesonotum fuscous brown; abdominal segmental margins and lateral areas of sternum greyishly tomentose; tegmina pale tawny brown, two prominent dark spots on costal membrane and another near apex, the apical

half much mottled with darker markings, the costal membrane finely granulose near base, a median series of granules, and about

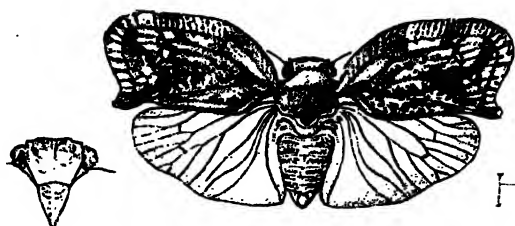


Fig. 88. *Satapa tuberculosa*.

three distinct tubercles a little before middle, one also on the claval area; wings pale fuliginous, the venation darker.

Length excl. tegm.  $5\frac{1}{2}$ ; exp. tegm. 13 millim.

*Hab.* S. India; Coimbatore (*Bainbrigge Fletcher, Brit. Mus.*).

Allied to *S. sicula*, Dist., from Ceylon, but differing in the tuberculated tegmina, the posterior angles of which are more produced, &c.

Genus **FLATA**. (Vol. III, p. 427.)

**FLATA FERRUGATA**. (Vol. III, p. 429.)

Add: *Hab.* N. Bengal; Katihar, Purneah Distr. (*Paiva*); Tirvani, Nepal Terai (*Warren*), Balighai, near Puri (*Anandale, Ind. Mus.*), Calcutta (*Brit. Mus.*).

Genus **MELICHARIA**. (Vol. III, p. 430.)

**MELICHARIA QUADRATA**. (Vol. III, p. 431.)

Add: *Hab.* South India; Kodaikanal, Chikkaballapura (*T. V. Campbell*).

**MELICHARIA LACTIFERA**. (Vol. III, p. 432.)

Add: *Hab.* South India; Kodaikanal (*T. V. Campbell*).

3290. **Melicharia obtusangula**, *Dist. A. M. N. II.* (8) ix. p. 463 (1912).

Body and legs pale dull ochraceous; tegmina creamy-white with a very pale ochraceous tint, especially at costal membrane, extreme base, and claval area; wings pale creamy-white; head (including eyes) a little narrower than pronotum, vertex centrally and laterally carinate, the anterior margin subtruncate, medially slightly angulate; face broad, with a central carination extending about half-way from base, the lateral margins broadly reflexed;

clypeus elongate; tegmina about one and a half times as long as broad, apical angle moderately rounded, posterior angle obtusely rounded, not rectangular; posterior tibiae with two spines, the apical spine short.

Length excl. tegm.  $5\frac{1}{2}$ ; exp. tegm. 16–17 millim.

*Hab.* Ceylon; Weligama (*Bainbrigge Fletcher*), Mt. Lavinia (*Green, Brit. Mus.*), Trivandrum (*Atkinson Coll.*).

Differs from *M. luctifera*, Walk., by the obtusely rounded posterior angles of the tegmina.

### Genus **HILAVRITA**. (Vol. III, p. 432.)

3291. *Hilavrita discolorata*, *Dist. A. M. N. H.* (8) ix, p. 464 (1912).

Body and legs brownish ochraceous, the mesonotum distinctly darker; tegmina brownish ochraceous, moderately greyishly tomentose, the basal disk and claval area with blackish granules, the longitudinal veins piceous; wings pale fuliginous, the veins piceous; head (including eyes) a little narrower than pronotum; face a little longer than broad, centrally carinate; pronotum rugosely granulate; mesonotum raised, obsoletely tricarinate; tegmina about one and a half times as long as broad, the apical and posterior angles rounded, costal membrane slightly wider than radial area.

Length excl. tegm. 4; exp. tegm. 14–14½ millim.

*Hab.* Bengal; Pusa (*C. S. M.*). Bombay (*Brit. Mus.*).

Allied to *H. fatua*, Melich., but smaller, no indications of dark spots on tegmina, which are distinctly narrower and proportionally more elongate.

3292. *Hilavrita obliqua*, *Dist. A. M. N. H.* (8) ix, p. 464 (1912).

In general coloration closely allied to the preceding species *H. discolorata*, but differing widely in the shape of the tegmina, which have the apical angle broadly rounded and the apical margin strongly oblique to the posterior angle, the tegmina are also nearly twice as long as broad from base to apical angle, and in these characters differing from all other species of the genus yet described.

Length excl. tegm.  $4\frac{1}{2}$ ; exp. tegm. 12½ millim.

*Hab.* Ceylon; Hambantota (*Bainbrigge Fletcher, Brit. Mus.*).

†

### Genus **CRYPTOFLATA**. (Vol. III, p. 435.)

**CRYPTOFLATA GUTTULARIS**. (Vol. III, p. 435.)

*Var. punctipennis*, *Dist. A. M. N. H.* (8) v, p. 302 (1910).

Tegmina pale virescent, spotted as in typical *guttularis*.  
*Assam; Margherita. N. China (Brit. Mus.)*.

Genus **ORYXA**. (Vol. III, p. 439.)**ORYXA TRUNCATA**. (Vol. III, p. 439, fig. 233.)

*Pœcilopectera addita*, *Walk. List Hom.* ii, p. 448 (1851).

*Pœcilopectera plana*, *Walk. loc. cit.* p. 463.

*Colobesthes falcata*, *Melich. (part.). Ann. Hofmus. Wien*, xvii, p. 43 (1903).

*Oryxa truncata*, *Dist. Rec. Ind. Mus.* v, p. 322 (1910).

Add: *Hab.* S. Ceylon. Java, Borneo.

Genus **FORCULUS**.

*Forculus*, *Dist. A. M. N. H.* (8) ix, p. 464 (1912).

Type, *F. peculiaris*, *Dist.*

*Distribution.* Ceylon.

Head twice as long as the pronotum, slightly ascendent anteriorly, anterior margin angularly rounded, lateral margins slightly sinuate, eyes large, at base of head overlapping the anterior angles of the pronotum; face longer than broad, concave, its anterior margin convex, angularly widened on each side before eyes; clypeus about half as long as face, with a slight central longitudinal ridge; pronotum a little more than twice as broad as long, its anterior margin more or less truncate between eyes and oblique behind eyes; mesonotum strongly tricarinate, posteriorly angulate, a little more than twice as long as pronotum; legs somewhat short and robust; femora longitudinally sulcate, compressed, posterior femora with a somewhat long and very distinct slender spine at apices; tibiæ moderately compressed, sulcate, posterior femora with three spines on apical area; basal joint of tibiæ short and thickened; rostrum reaching the intermediate coxæ; tegmina elongate, widest at basal area, where the costal margin is strongly convexly arched, distinctly narrowed on apical third, costal membrane and about apical half strongly transversely veined, clavus more faintly transversely veined, very obsoletely granulate, apex of tegmen roundly truncate; wings broader than tegmina, posteriorly dilated at anal area, two transverse veins on apical areas.

Allied to the Neotropical genus *Cyarta*, *Walk.*, and to be placed near the beginning of the Division *Selizaria*.

3293. **Forculus peculiaris**, *Dist. A. M. N. H.* (8) ix, p. 465 (1912).

Head, pronotum, and mesonotum dull brownish ochraceous with darker mottlings; apex of mesonotum shining, greyish white; abdomen above greenish ochraceous, some of the segmental margins narrowly sanguineous; head beneath, sternum, and legs dull pale brownish ochraceous, concave disk of face more piceous;



abdomen beneath greenish ochraceous ; tegmina shining brownish ochraceous, costal membrane and apex more or less marked with

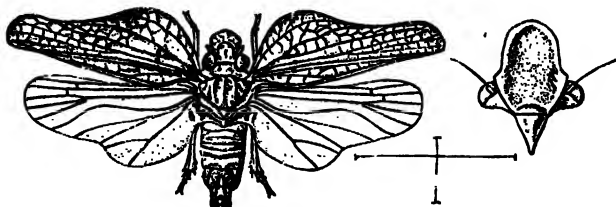


Fig. 89.—*Forculus peculiaris*.

olivaceous green ; wings pale fuliginous with the veins darker ; structural characters as in generic diagnosis.

Length excl. tegm. 8 ; exp. tegm. 22 millim.

*Hab.* Ceylon ; Hambantota, Madulsima (*Bainbrigge Fletcher, Brit. Mus.*).

#### 3294. *Forculus gibbosus*, sp. n.

Head, pronotum, and mesonotum pale brownish ochraceous with darker mottlings ; abdomen above ochraceous, the segmental margins narrowly greyish ; face fuscous brown with the margins ochraceous ; clypeus, sternum, and legs more or less ochraceous, the legs with darker mottlings ; abdomen beneath pale fuscous, more or less greyishly tomentose ; tegmina brownish ochraceous, a large irregularly-shaped greyish spot above clavus which is paler in hue with its veins margined with fuscous ; wings fuliginous, a little darker on apical areas.

Length excl. tegm. 8 ; exp. tegm. 21 millim.

*Hab.* Ceylon ; Maha Illupalama (*J. C. F. Fryer*).

Allied to the preceding species *F. peculiaris*, but differing in the much more convexly arched basal costal area of the tegmina and the more truncate apex of same, with the pale discal spot above clavus.

#### 3295. *Forculus viridis*, sp. n.

Vertex, pronotum, and mesonotum greenish ochraceous ; abdomen above pale virescent, the segmental margins darker green ; face and clypeus greyish white, the margins narrowly greenish ochraceous ; sternum and legs greenish ochraceous ; the latter with the tibiae and tarsi distinctly darker, tarsal claws black ; abdomen beneath pale virescent ; tegmina greenish ochraceous, a small castaneous spot beneath radial area at a short distance from base, beyond middle the costal margin is minutely spotted with castaneous, the apical margin more strongly so, the inner apical margin minutely spotted ; wings darkly greyish, with a small longitudinal fuscous streak near apical area.

Length excl. tegm. 9 ; exp. tegm. 23 millim.

*Hab.* Ceylon ; Maha Illupalama (*J. C. F. Fryer*).

Allied to the two preceding species, but apart from the different coloration and markings the tegmina are more broadly and evenly elevated on the costal margin.

Genus **FORCULUSOIDES**, nov.

Type, *F. rubronervis*, Dist.

*Distribution.* Ceylon.

Allied to the preceding genus *Forculus*, but the head much shorter, not twice as long and only slightly longer than the pronotum ; face as long as broad, not longer than broad, moderately convex, not concave ; clypeus almost as long as face, not half as long ; pronotum not truncate between the eyes but distinctly convexly produced ; other characters generally as in *Forculus*.

3296. *Forculusoides rubronervis*, sp. n.

Vertex, pronotum, and mesonotum dark greenish ochraceous with darker mottlings ; abdomen above viresecent, paler at base, the segmental margins also paler ; face greenish, the margins more ochraceous ; clypeus pale castaneous, the margins and a central fascia pale greenish ochraceous ; body beneath and legs greenish



Fig. 90.—*Forculusoides rubronervis*.

ochraceous, the abdomen darker and minutely spotted with black ; femora more or less streaked with pale castaneous, posterior tibiae with their basal areas much darker ; tegmina pale testaceous, the venation dark testaceous, a distinct tuberculous testaceous spot on disk of basal area, extreme costal margin spotted with fuscous, and a small discal fuscous spot beyond middle ; wings pale fuliginous, the veins and apical area distinctly darker ; vertex of head centrally longitudinally depressed, the lateral margins ridged ; pronotum faintly centrally ridged ; mesonotum strongly tricarinate, the lateral carinations anteriorly recurved.

Length excl. tegm. 8 ; exp. 25 millim.

*Hab.* Ceylon ; Madulsima (*E. E. Green*).

Genus **SELIZA**. (Vol. III, p. 440.)**SELIZA ? NIGROPUNCTATA**. (Vol. III, p. 443).

Add: *Hub.* Bengal. Pusa and Dacca (*C. S. M., Brit. Mus.*).  
 Found on sugar-cane at Pusa.

3297. **Seliza pusana**, *Dist. A. M. N. H.* (8) ix, p. 465 (1912).

Body and legs pale castaneous brown, disk of mesonotum black; tegmina brownish ochraceous; wings fuliginous with the veins darker; head (including eyes) narrower than pronotum, centrally moderately depressed, lateral margins distinctly ridged; face a little longer than broad, centrally longitudinally carinate, the lateral margins strongly ridged; pronotum centrally bicarinate; mesonotum discally tricarinate; tegmina about twice as long as broad, costal margin arched at base, very slightly sinuate before apex, apical angle obtusely rounded, the posterior angle moderately roundly posteriorly produced, costal membrane very slightly narrower than radial area at base of each, tegmina transversely veined from a little beyond middle to the apical cells.

Length excl. tegm. 5; exp. tegm.  $14\frac{1}{2}$ –15 millim.*Hab.* Bengal; Palamow (*D. P. S., Brit. Mus.*).

By the shape of the tegmina this species comes nearest to *S. lignaria*, Walk., from China, but differs by the less reticulate venation to same; from the other Indian species it is to be recognized by the almost non-sinuate and more rounded apical tegminal margin.

Genus **PARAGOMEDA**.**Paragomeda**, *Dist. A. M. N. H.* (8) xiii, p. 421 (1914).Type, *P. typica*, *Dist.**Distribution.* South India.

Head longer than breadth between eyes, narrowed anteriorly; face considerably longer than broad, obliquely narrowed at base, centrally carinate; pronotum shorter than vertex, centrally finely carinate, its lateral margins laminate; mesonotum tricarinate; tegmina about twice as long as broad, with the costal membrane very strongly arched and convex, moderately sinuate before apex, apical margin truncate, the apical and posterior angles not rounded, posterior margin slightly sinuate, costal membrane scarcely or very little wider than radial area, venation generally as in *Gomeda*; wings very little broader than tegmina.

Allied to *Gomeda*, *Dist.*, but separated by the different-shaped and more produced vertex of head, the strongly arched and convex costal membrane, and the angulate apical and posterior tegminal angles, &c.

3298. *Paragomeda typica*, *Dist. A. M. N. H.* (8) xiii, p. 422 (1914).

Body above and beneath ochraceous, the legs paler, the abdomen above basally and apically cretaceously tomentose; tegmina pale ochraceous, sparingly spotted with brownish, the apical cells

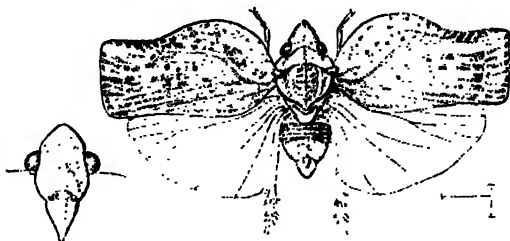


Fig. 91. -*Paragomeda typica*.

brownish, preceded by a similar series of transverse brownish spots; wings creamy-white; structural characters as in generic diagnosis.

Length excl. tegm.  $4\frac{1}{2}$ ; exp. tegm.  $12\frac{1}{2}$  millim.

*Hab.* S. India; Nandidrug (*T. V. Campbell*).

3299. *Paragomeda viridis*, *Dist. A. M. N. H.* (8) xiii, p. 422 (1914).

Head, pronotum, and mesonotum virescent; abdomen, body beneath, and legs ochraceous; tegmina virescent, the margins very narrowly pale ochraceous, the apical margin minutely spotted with pale brownish, and a few scattered minute brownish spots on disk; wings creamy-white; vertex only slightly longer than pronotum, which is centrally carinate; mesonotum tricarinate.

Length excl. tegm.  $3\frac{1}{2}$ ; exp. tegm.  $12\frac{1}{2}$  millim.

*Hab.* S. India; Nandidrug (*T. V. Campbell*).

A single carded specimen of this species allows no further description than the above.

Genus **KETUMALA**. (Vol. III, p. 446.)

3300. *Ketumala sinuata*, *Dist. A. M. N. H.* (8) ix, p. 466 (1912).

Head, pronotum, mesonotum, face, and legs pale castaneous brown, abdomen and sternum paler and more ochraceous; tegmina brownish ochraceous, the claval suture paler; wings fuliginous with the veins darker; head narrower than pronotum, vertex obscurely centrally carinate, the lateral margins strongly ridged; face about as long as broad, with a short central longitudinal carination; pronotum strongly anteriorly produced, with a short obscure central carination near anterior margin; tegmina about twice as long as broad, costal margin arched at base,

distinctly sinuate before apex, apical margin truncate, costal membrane much wider than radial area.

Length excl. tegm. 4; exp. tegm. 15 millim.

*Hab.* Ceylon; Weligama (*Bainbrigge Fletcher, Brit. Mus.*).

Allied to *K. bisecta*, Kirby, but the tegmina a little more elongate, considerably more sinuate before apex, and paler in coloration.

3301. *Ketumala farinosa*, *Dist. A. M. N. H.* (8) ix, p. 466 (1912).

Body, legs, and tegmina dull pale ochraceous, the latter distinctly greyishly tomentose; wings pale fuliginous with the veins darker; head (including eyes) narrower than pronotum; vertex broad, the lateral margins strongly ridged, obscurely centrally carinate; face about as broad as long, almost percurrently centrally carinate; pronotum strongly anteriorly produced; mesonotum discally tricarinate; tegmina about or nearly twice as long as broad, costal margin arched at base, moderately sinuate before apex, apical margin truncate, costal membrane much wider than radial area, clavus thickly finely granulose.

Length excl. tegm. 5; exp. tegm. 15 millim.

*Hab.* Ceylon; Hambantota (*Bainbrigge Fletcher, Brit. Mus.*).

By the percurrently carinate face and the greyishly tomentose tegmina this species is to be distinctly recognized.

3302. *Ketumala fuscomarginata*, sp. n.

Vertex, pronotum, and mesonotum very pale greenish ochraceous; abdomen above pale virescent; body beneath pale virescent, the legs pale ochraceous; pronotum and mesonotum with a very pale and somewhat indistinct fuscous central fascia; tegmina pale greenish with an ochraceous tint, the apical margin (narrowly) and the inner margin (more broadly and darkly) fuscous brown; wings pale greyish; vertex broad and narrow, the lateral marginal angles slightly spinous before the eyes; mesonotum very feebly tricarinate; tegmina about twice as long as broad, costal margin arched at base, posterior angle not produced, apical angle roundly angulate, costal membrane much wider than radial area, the first coarsely transversely veined; wings at base about as broad as tegmina.

Length excl. tegm. 5; exp. tegm. 14 millim.

*Hab.* South India; Kodaikanal (*T. V. Campbell*).

Allied to *K. rubromarginata*, *Dist.*, from the Seychelles.

Genus **PARAKETUMALA.**

*Paraketumala*, *Dist. A. M. N. H.* (8) ix, p. 467 (1912).

Type, *P. anomala*, *Dist.*

*Distribution.* Bengal.

Allied to *Ketumala*, *Dist.*, but differing by the face being per-

currently carinate and the tegmina distinctly transversely veined on apical area as in *Seliza*.

The second character prevents its inclusion in *Ketumala* or the allied genera, whilst from *Seliza* it is separated by the short and broad face and the non-produced posterior angles of the tegmina.

3303. *Paraketumala anomala*, *Dist. A. M. N. H.* (8) ix, p. 467 (1912).

Body and legs brownish ochraceous; tegmina dull pale ochraceous, more or less greyishly tomentose; wings pale fuliginous with the veins darker; head (including eyes) narrower than pronotum, vertex narrow, broad, anteriorly subtruncate, the anterior apices of the lateral margins a little prominent, the lateral margins strongly ridged; face about as broad as long, centrally percurrently carinate, its lateral margins amply ridged, a little

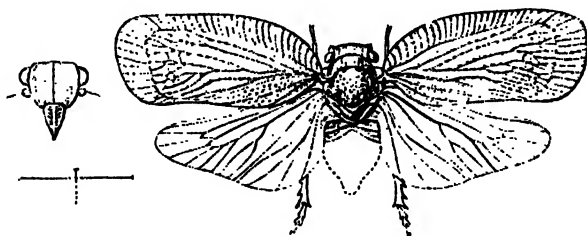


Fig. 92. — *Paraketumala anomala*.

narrowed towards clypeus, which is centrally carinate and obliquely striate on each lateral area; pronotum with very fine longitudinal ridges; posterior tibiae with two spines beyond middle and an apical spine; tegmina about twice as long as broad, costal margin arched at base, very slightly sinuate before apex, apical margin roundly truncate, posterior angle not produced, costal membrane much wider than radial area, the first closely transversely veined, a curved line proceeding from end of radial area to about apex of clavus, defining narrow elongate longitudinal marginal cellular areas, preceding these areas the disk is for a short distance transversely or reticulately veined.

Exp. tegm. 15 millim.

*Hab.* Bengal; Pusa (*G. S. M., Brit. Mus.*).

Genus **ANAYA**. (Vol. III. p. 447.)

3304. *Anaya nicobarensis*, *Dist. A. M. N. H.* (8) v, p. 316 (1910).

Body and legs brownish ochraceous; lateral spots to abdomen above, vertex, and face chocolate-brown; tegmina brownish

ochraceous, the apical margin paler, about basal half of costal membrane and radial area jet-black, clavus piceous, a central discal white patch on which are three somewhat large black spots, and beyond this white patch a cluster of more irregular and smaller black spots; wings pale fuliginous, with greyish-white streaks between the veins on basal area; vertex transverse, centrally ridged and laterally carinate; face about as broad as long, centrally ridged, laterally broadly laminately ridged; tegmina with the costal margin arched at base, the apical margin truncate; costal membrane a little wider than radial area; clavus somewhat strongly granulose.

Length excl. tegm.  $6\frac{1}{2}$ ; exp. tegm. 17 millim.

*Hab.* Nicobar Islands; Narcondam (*G. Rogers, Brit. Mus.*).

3305. *Anaya nigropunctata*, sp. n.

Head, pronotum, and mesonotum ochraceous; abdomen above paler and with a slight virescent tint; body beneath and legs pale ochraceous; tegmina pale ochraceous; the veins on apical area much mottled with brownish ochraceous, about nine small

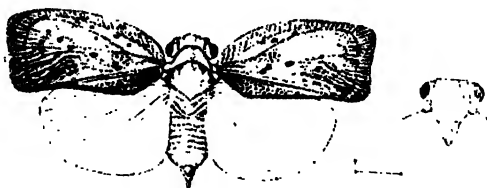


Fig. 93.—*Anaya nigropunctata*.

black spots, situate three in radial area, and the others in longitudinal series near middle of tegmen; wings creamy-white; vertex a little narrower than pronotum, centrally very obscurely ridged and laterally carinate; pronotum centrally ridged; mesonotum tricarinate; tegmina with two transverse subapical lines.

Length excl. tegm. 5; exp. tegm. 12 millim.

*Hab.* South India; Kodaikanal (*T. V. Campbell*).

Genus **PARANOTUS**.

*Paranotus*, Karsch, *Berl. ent. Zeitschr.* xxxv, p. 66 (1890); *Metich. Ann. Hofmus. Wien*, xvii, p. 24 (1902).

Type, *P. rufilineus*, Walk., an Ethiopian species.

*Distribution.* Ceylon. West, East, and South Africa.

Head about twice as long as broad, centrally longitudinally

carinate, the lateral margins also carinate, the apical margin subangularly truncate; the head is narrower than the pronotum and the eyes do not reach the pronotal angles; face as broad as long, the lateral margins convexly narrowing to clypeus and finely carinate, a central longitudinal carination extending from anterior margin to near middle; clypeus centrally and laterally carinate; pronotum transverse, narrow, about as long as head, obliquely sinuate behind eyes, centrally moderately carinate, the posterior margin subangularly sinuate; mesonotum strongly bicarinate (a central carination indistinctly recognised owing to pin-mutilation in type); tegmina a little more than twice as long as broad, their apical margins truncate but with their posterior angles not produced, the outer disk reticulately veined, an indistinct narrow transverse line separating the apical veins which are mostly furcate, costal membrane closely transversely veined, lower claval area thickly granulate; wings broader and a little shorter than tegmina, two transverse veins on apical area.

This genus is to be placed in the division *Selizaria* and near *Parona*.

3306. *Paranotus limbatus*, *Dist. A. M. N. H.* (8) ix, p. 467 (1912).

Head, pronotum, and mesonotum virescent; abdomen above more bluish green; body beneath and legs virescent; tibiae more or less suffused with castaneous, tarsi castaneous; tegmina virescent, costal and apical margins and posterior margin from

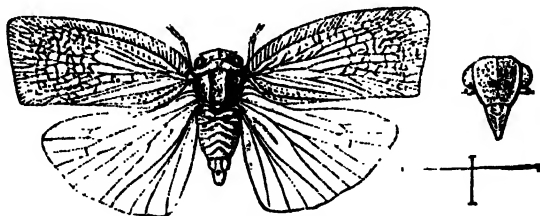


Fig. 94.---*Paranotus limbatus*.

end of clavus to apex narrowly sanguineous; wings pale bluish grey; structural characters as in generic diagnosis.

Length excl. tegm. 6; exp. tegm. 19 millim.

*Hab.* Ceylon; Horton Plains (*Green, Brit. Mus.*).

3307. *Paranotus maculosus*, *Dist. A. M. N. H.* (8) ix, p. 468 (1912)

Allied to the preceding species *P. limbatus*, but differing in the following tegminal characters: more convexly arched at base, the apex less angulate and a little more rounded, the reddish



margins more pronounced, more castaneous in hue and extending along claval margin, on disk three more or less well-defined sets of small pale brownish spots situate between the veins; head, face, body beneath, and legs ochraceous, the tibiæ and tarsi being only faintly darker.

Length excl. tegm. 6; exp. tegm. 17 millim.

*Hab.* Ceylon; Pattipola (*Green, Brit. Mus.*).

### Genus **ATRACIS.** (Vol. III, p. 450.)

3308. *Atracis facialis*, *Dist. A. M. N. H.* (8) ix, p. 468 (1912).

Head, pronotum, body beneath, and legs ochraceous; abdomen above ochraceous, greyishly tomentose; head, thorax, and face more or less finely mottled with fuscous, the mesonotum with larger piceous spots; tegmina pale ochraceous, more or less finely mottled with piceous; wings finely greyishly tomentose; head (including eyes) narrower than pronotum, vertex longer than broad, in front of eyes distinctly foveate, the apex narrowed and roundly angulate; face much longer than broad, the anterior angles of the lateral margins only obtusely prominent, the lateral angles behind anterior third amply ridged; clypeus obliquely finely carinate on lateral areas; pronotum slightly shorter than vertex of head, the disk distinctly elevated and laterally ridged behind eyes, the lateral areas depressed and marginally ridged; mesonotum about or almost as long as head and pronotum together, the disk elevated with its sides distinctly carinate; tegmina a little more than twice as long as broad, the costal membrane quite three times as broad as radial area, costal margin slightly waved and uneven, apical margin roundly truncate.

Length excl. tegm. 9; exp. tegm. 20 millim.

*Hab.* Ceylon; Wellawaya (*Green, Brit. Mus.*).

By the tegmina allied to *A. nietneri*, Stål, but a smaller species and the shape of the face very distinct; tegmina narrower, &c.

3309. *Atracis atkinsoni*, *Dist. A. M. N. H.* (8) ix, p. 468 (1912).

Body and legs dull ochraceous; apical half of vertex and apical half of face more or less spotted with black; mesonotum with a black spot near each anterior angle, its disk mutilated in type; tegmina greyish white mottled with ochraceous and fuscous, the fuscous shadings being distinctly confluent on apical and basal areas and transversely linear on costal membrane; wings greyish white, subhyaline, the veins ochraceous; vertex longer than broad, foveate, the apex broadly angulate, the lateral margins strongly amply ridged; face much longer than broad, the lateral margins amply ridged, the posterior half considerably broader, the anterior half obscurely centrally carinate; tegmina about twice as long as broad, the costal margin

slightly waved and uneven, costal membrane a little more than twice as broad as radial area, which is strongly waved, a few small discal tubercles on apical third.

Length excl. tegm. 7; exp. tegm. 34 millim.

*Hab.* Ceylon; Pundaluoya (*Atkinson Coll., Brit. Mus.*).

By the shape of tegmina and face allied to *A. moelleri*, Dist.

**3310. *Atracis haragamensis*, Dist. A. M. N. H. (8) ix. p. 469 (1912).**

Body above pale virescent, vertex of head and thorax more or less mottled with castaneous; abdomen above paler, a central line and posterior lateral fasciæ virescent; body beneath and legs pale ochraceous, anterior margin of face piceous; tegmina pale virescent, more or less finely mottled with fuscous; wings greyish white, subhyaline, the veins pale ochraceous; vertex longer than broad, foveate, the apex broadly angulate, the lateral margins strongly ridged; face much longer than broad, shortly broadly carinate on anterior area, gradually widening to region of eyes and thence more regularly continued to clypeus, the lateral margins amply ridged; clypeus with the lateral areas finely obliquely carinate; tegmina about twice as long as broad, the costal margin very strongly waved and sinuate, the costal membrane more than three times as broad as radial area, apical margin roundly truncate, obsoletely finely tuberculous on apical third.

Length excl. tegm. 9; exp. tegm. 30 millim.

*Hab.* Ceylon; Haragam (*Green, Brit. Mus.*).

This species by the strongly sinuate costal margin of the tegmina is allied to *A. perplexa*, Walk., and *A. cretacea*, Dist.

**3311. *Atracis greeni*, Dist. A. M. N. H. (8) ix. p. 469 (1912).**

Body and legs ochraceous; abdomen above with a central line and the posterior lateral areas virescent; tegmina dull creamy, opaque, with fuscous linear markings, which are a little more prominent in the costal membrane and apical area, the basal area faintly suffused with pale fuscous; wings creamy-white, subhyaline; head narrower than pronotum, vertex longer than broad, concave, more or less granulate, the lateral margins upwardly ridged, the apex angularly rounded; face much longer than broad, its anterior area speckled with fuscous, lateral margins finely ridged, moderately sinuate to eyes, thence a little convexly broadened to clypeus, which is obscurely centrally carinate; tegmina with the costal membrane about three times broader than radial area, the costal margin moderately sinuate, apical margin roundly truncate.

Length excl. tegm. 9; exp. tegm. 26 millim.

*Hab.* Ceylon; Peradeniya (*Green, Brit. Mus.*).

Allied to the preceding species *A. haragamensis*, Dist., but differing by the less sinuate costal margin of tegmina and the different shape of the face, colour and markings of tegmina, &c.

*ATRACIS FIMBRIA.* (Vol. III, p. 457, fig. 247.)

Add: *Hab.* Ceylon; Pundaluoya (*Green*).

3312. *Atracis sadeyana*, *Dist. A. M. N. H.* (8) ix, p. 470 (1912).

Body and legs ochraceous; mesonotum with a linear black fascia on each side; abdomen much mutilated in type, the base castaneous above; tegmina pale ochraceous with fuscous markings, of which the principal are an oblique broken fascia extending from apex of radial area to basal area of clavus, some irregular spots at and above apex of clavus and scattered minute spots round apical margin; wings dull greyish white, the veins ochraceous; head narrower than pronotum, vertex a little longer

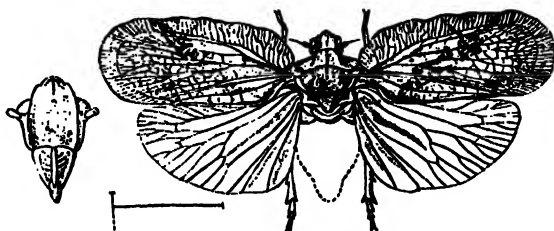


Fig. 95.—*Atracis sadeyana*.

than broad, somewhat upwardly directed, moderately flat, but the lateral margins strongly ridged; face considerably longer than broad, the lateral margins subparallel and very strongly ridged, its disk smooth and moderately flattened; clypeus finely obliquely striate on each lateral area; pronotum distinctly centrally ridged; tegmina a little more than twice as long as broad, the costal margin moderately sinuate, the costal membrane at base a little more than three times broader than radial area, apical margin very roundly truncate.

Exp. tegm. 28 millim.

*Hab.* Assam; *Sadeya* (*Brit. Mus.*).

3313. *Atracis clypeata*, *Dist. A. M. N. H.* (8) xiii, p. 422 (1914).

Body above pale greenish ochraceous; vertex with two small spots at apex and the lateral margins near eyes black; mesonotum with somewhat large linear black spots forming two broken anteriorly converging fasciæ; abdomen above with two dark basal spots and three pale greenish longitudinal fasciæ, one central,

the other two lateral; face with some small black marks near anterior margin, clypeus with two central brown fasciæ united posteriorly; legs ochraceous; tegmina opaque, greyish, with a slightly greenish tint, a few small black spots near base, and some other mostly linear on apical area, the veins greenish ochraceous; wings creamy-white, the veins greenish ochraceous; vertex about as long as the pronotum, centrally longitudinally incised, foveate, with the lateral margins strongly recurved; lateral margins of the pronotum moderately recurved; face longer than broad, narrowed anteriorly, lateral margins strongly recurved; tegmina with the costal membrane about three times as wide as radial area.

Length excl. tegm. 11; exp. tegm. 32 millim.

Hab. Ceylon (*J. C. Fryer, Brit. Mus.*).

3314. *Atracis nalandensis*, *Dist. A. M. N. H.* (8) xiii, p. 423 (1914).

Body above dull brownish mottled with darker markings, the mesonotum with two discal, longitudinal, anteriorly converging black fasciæ; abdomen with two basal excavated black spots; face and clypeus somewhat more palely ochraceous, the first with its anterior area more or less speckled with black; tegmina ochraceous, irregularly speckled and spotted with black (these

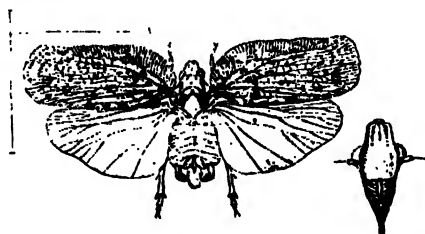


Fig. 96.—*Atracis nalandensis*.

markings vary in different specimens); wings pale fuliginous, a little paler on central area; vertex about as long as pronotum, distinctly foveate, the lateral margins strongly recurved; pronotum with the lateral margins also strongly recurved; face considerably longer than broad, narrowed anteriorly, the lateral margins strongly recurved; clypeus finely, darkly, transversely striate; tegmina with the costal membrane more than twice as broad as radial area.

Length excl. tegm. 12; exp. tegm. 33 millim.

Hab. Ceylon; Nalanda (*Atkinson Coll., Brit. Mus.*). Assam; Margherita (*Doherty*).

3315. *Atracis dissimilis*, *Dist. A. M. N. H.* (8) xiii, p. 423 (1914).

Body above greenish ochraceous; abdominal segmental margins a little paler; legs ochraceous; tegmina greyish ochraceous,

opaque, with some small ill-defined darker spots, of which the largest are two in vertical series near base and another on apical area; wings creamy-white; vertex slightly longer than pronotum, strongly, centrally longitudinally incised, the lateral margins recurved; pronotum centrally longitudinally ridged, the lateral margins recurved; mesonotum somewhat crushed and mutilated in typical specimen; abdomen above centrally longitudinally carinate; face with the apex distinctly darker, centrally longitudinally carinate, longer than broad, the lateral margins moderately convex and recurved; clypeus with brownish oblique striations on each lateral area; tegmina with the costal membrane three times as broad as radial area.

Length excl. tegm. 11; exp. tegm. 28 millim.

*Hab.* S. Mysore; Goorhalli Estate (*Bainbrigge Fletcher*, *Brit. Mus.*).

### Subfamily DELPHIACINÆ. (Vol. III, p. 465.)

#### Genus PUNDALUOYA. (Vol. III, p. 467.)

*Pundaluoya*, *Kirk. J. Bomb. Nat. Hist. Soc.* xiv, p. 52 (1902).

*Peregrinus*, *Kirk. Entomologist*, xxxvii, p. 175 (1904).

#### PUNDALUOYA SIMPLICIA. (Vol. III, p. 468, fig. 255.)

*Peregrinus maidis*, *Kirk. (nec Ashmead), Faun. Haw.* ii, p. 577 (1910).

*Pundaluoya simplicia*, *Bainbr. Fletch. Some S. Ind. Ins.* p. 494, fig. 382 (1914).

The late Mr. Kirkaldy created (above and elsewhere) considerable confusion as regards this genus and species. He stated that it = *D. maidis*, Ashm., and *D. psylloides*, Leth., and proposing a new genus for it under *Peregrinus*.

That it is not the same as *maidis*, Ashmead, who figured his species, is clear from the structure of the face and the venation of the wings; moreover, the British Museum now possesses a specimen from Hawaii labelled *maidis*, Ashm., which is undoubtedly *simplicia*, Dist. He also added to the synonymy the *Delphax psylloides*, Leth., which was well figured (*Ind. Mus. Notes*, iii, p. 105, 1896), including sectional characters, and therefore cannot be placed in the same genus, nor in the same subfamily.

Add: *Hab.* Throughout the plains of Southern India (*Bainbrigge Fletcher*), Chikkaballapura (*T. V. Campbell*).—Seychelle Islds.; Hawaiian Islds.; Southern Nigeria. Probably also from Fiji, New South Wales, and Java, from which localities Kirkaldy may have recorded it under the name of *P. maidis*.

3316. *Pundaluoya insignis*, *Dist. A. M. N. H.* (8) ix, p. 190 (1912).

Head, pronotum, and mesonotum ochraceous, lateral areas of pro- and mesonota black; abdomen above black, lateral margins more or less minutely spotted with testaceous; body beneath black; legs pale testaceous, femora and apices of tibiae mostly black; tegmina subhyaline, more than basal half brownish ochraceous where the veins are brownly granulose, apical area piceous, with a large stigmal triangular spot above and a marginal series of smaller spots greyish white; wings hyaline, the veins fuscous; vertex short, broad, marginally and centrally carinate, the anterior margin almost in a line with the anterior margins of the eyes; face sometimes distinctly bicolorous, then between the eyes being castaneous, tricarinate.

Length excl. tegm.  $3\frac{1}{2}$ ; exp. tegm. 9-10 millim.

*Hab.* Bengal; Pusa (*Brit. Mus.*). Balighai, near Puri, Orissa (*Ind. Mus.*). Bombay; Bassein Fort (*Brit. Mus.*).

At Pusa it is recorded as taken on wheat, at light, and in jungle; a single specimen was taken by Dr. Annandale in Orissa.

3317. *Pundaluoya pulchella*, *Dist. A. M. N. H.* (8) ix, p. 190 (1912).

Body above black; vertex much suffused with ochraceous; ridges to pro- and mesonota ochraceous; abdomen spotted on each side near base with ochraceous; body beneath and legs black; face more or less speckled with ochraceous, the central and lateral carinations, the apex and cheeks also ochraceous;

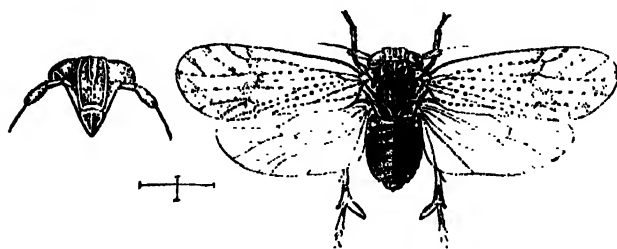


Fig. 97.—*Pundaluoya pulchella*.

basal margin of clypeus ochraceous; legs more or less streaked with ochraceous; tegmina hyaline, veins rather thickly speckled with fuscous granules, a curved fascia extending from stigma to posterior angle and then upwardly recurved to near apex, two short oblique fasciae beyond stigma and a marginal line near apex of clavus, fuscous; wings hyaline, the veins darker; face with the central carination bifurcating at a little beyond middle.

*Var.* Head, pronotum, and mesonotum castaneous, not black.

Length excl. tegm.  $2\frac{1}{2}$ ; exp. tegm. 10 millim.

*Hab.* Ceylon; Peradeniya and Trincomalee (*Green, Brit. Mus.*). Bengal; Pusa (*H. L. D.*), Chapra (*Mackenzie, Brit. Mus.*); Travancore; Temalai, W. Ghats (*Annandale, Ind. Mus.*). Bombay; Bassein Fort (*Brit. Mus.*).—Seychelle Islds.; Mahé.

3318. *Pundaluoya facialis*, *Dist. A. M. N. H.* (8) ix, p. 101 (1912).

Vertex, pronotum, and mesonotum ochraceous; abdomen above black, more or less annulated with ochraceous; face ochraceous, castaneous between the eyes, clypeus black; cheeks ochraceous, spotted with black; sternum and legs ochraceous; abdomen beneath fuscous brown, a central fascia and lateral spots ochraceous; tegmina hyaline, the veins rather thickly speckled with fuscous, a curved longitudinal fascia extending from the apices of the longitudinal veins to apex, two short oblique fasciæ beyond stigma, apical spots at terminations of apical veins, and a marginal line near apex of clavus, fuscous.

Length excl. tegm.  $2\frac{1}{2}$ ; exp. tegm.  $9\frac{1}{2}$  millim.

*Hab.* Bengal; Chapra (*Mackenzie, Brit. Mus.*).

By the markings of the tegmina allied to *P. simplicia*, *Dist.*, but differing from that species by the speckled venation, &c.

#### Genus PUROHITA. (Vol. III, p. 470.)

3319. *Purohita arundinacæ*, *Dist. Ent. Month. Mag.* (2) xviii, p. 10 (1907); *Antrum, J. Bomb. Nat. Hist. Soc.* xvii, p. 1024 (1907).

Body and legs ochraceous; antennæ fuscous; face carmine-red to posterior margin of eyes, thence cretaceous white to clypeus; lateral margins of prosternum carmine-red, inwardly margined with cretaceous white; anterior and intermediate legs striped with black, apices of tarsi black; the carinations to vertex, pro- and mesonota greyish, as is also the apical area of the latter, which has a dark apical spot; abdomen above with the three posterior segments purplish red with the margins ochraceous; tegmina creamy-white, all the veins spotted with black, the marginal spots largest, and commencing at end of radial area, terminating at apex of claval area; wings hyaline, the venation pale fuscous; vertex strongly ridged at lateral margins, and with a faint central pale carination; pronotum angularly emarginate at posterior margin; face strongly tricarinate; clypeus medially and laterally carinate; first joint of antennæ long and broad, broadly centrally ridged on each side, second joint more than half the length of first; apical spur to posterior tibiæ long and robust; tegminal veins more or less granulose.

Length excl. tegm. 4-5; exp. tegm. 11-14 millim.

*Hab.* Darjiling, 3100 feet.

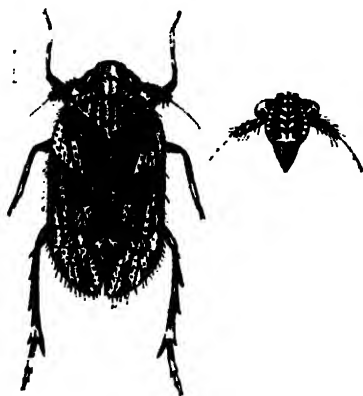
This species was found by Dr. H. H. Mann attacking bamboos at Darjiling.

Genus **ONKELOS**, nov.Type, *O. annulatus*, Dist.*Distribution.* South India.

Vertex of head broader than long, distinctly projecting before eyes, the apex roundly truncate, the disk foveate with a broad central ridge and two sublateral carinations which meet anteriorly; face longer than broad, anterior margin truncate, convexly rounded towards clypeus, finely centrally carinate, laterally broadly sublaminar; clypeus more than half the length of face, somewhat broadly centrally ridged; antennæ with the first and second joints thickened, longly hirsute, second joint longer than first; pronotum centrally about as long as vertex, anterior margin slightly convex between the eyes, the lateral areas concavely narrowed to posterior angles, base centrally concave; mesonotum about as long as head and pronotum together, with five longitudinal carinations, posteriorly, centrally, a little lobately produced; legs moderately long, posterior tibiæ with three spines and a moderately long apical mobile spur; tegmina about three times as long as broad, obliquely depressed laterally, the apices broadly angulate, the veins granulose, a more or less continuous series of transverse veins before apical area.

3320. *Onkelos annulatus*, sp. n.

Head, pronotum, and mesonotum ochraceous, lateral marginal areas of vertex slightly infuscate, pronotum with a central series of black spots not meeting on disk, mesonotum with the outer

Fig. 08.—*Onkelos annulatus*.

carination on each side inwardly spotted transversely with black; face black, more or less transversely fasciated with ochraceous, the lateral marginal areas more closely maculately fasciate; clypeus more opaquely black; antennæ with the basal joints black, spotted with ochraceous; body beneath imperfectly seen in unique carded type; legs with the femora black or blackish, tibiæ pale



ochraceous annulated with black; tegmina fuscous with paler suffusions, especially near base and on apical area, the granules distinctly darker; structural characters as in generic diagnosis.

Length incl. tegm. 5 millim.

*Hab.* South India; Kodanikal (*T. V. Campbell*).

Genus **AKILAS**, nov.

Type, *A. fasciatus*, Dist.

*Distribution.* South India.

Vertex of head slightly longer than broad, distinctly produced in front of eyes, the lateral and posterior margins distinctly ridged; face narrow, much longer than broad, centrally and laterally carinate, its anterior margin truncate, considerably compressed between eyes; clypeus less than half the length of face, centrally carinate; antennæ with the first and second joints robust, second much longer than first; pronotum about as long as vertex, truncate between eyes, lateral margins oblique, basal margin irregularly concave; mesonotum almost as long as head and pronotum together, the posterior margins obliquely concave; legs long, especially the posterior tibiæ which possess two short fine spines, one near base the other near middle, and a long robust apical spur which is inwardly serrated; tegmina considerably narrower at base than at apex, four distinct apical marginal cells, apical margins a little oblique and exposing the abdominal apex, laterally obliquely depressed on each side.

3321. **Akilas fasciatus**, sp. n.

Above shining black; vertex, a central fascia to pro- and mesonota, and the lateral margins to same ochraceous; face black, a spot

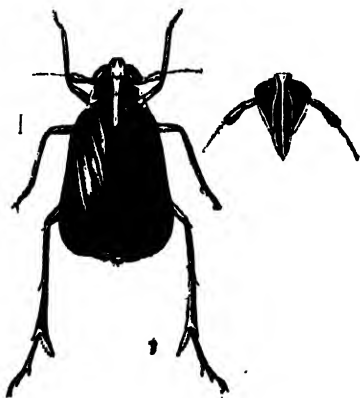


Fig. 99.—*Akilas fasciatus*.

at anterior margin, the central carination and lateral margins ochraceous; body beneath imperfectly seen in unique carded type;

legs blackish, extreme apices of posterior tibiae distinctly pale ochraceous; structural characters as in generic diagnosis.

Length incl. tegm.  $2\frac{1}{2}$  millim.

*Hab.* South India; Kodaikanal (*T. V. Campbell*).

Genus **SOGATA**. (Vol. III, p. 471.)

**3322. *Sogata sternalis*, sp. n.**

Head, pronotum, and mesonotum greyish white, the lateral margins of each more or less broadly brownish ochraceous, on anterior area of vertex there is on each side a submarginal black line; body beneath and legs pale ochraceous, large sternal spots and abdomen, more or less, black; abdomen above black, the base brownish ochraceous; tegmina greyish brown, a broad longitudinal pale fuscous fascia occupying clavus and the whole inner marginal area; wings pale fuliginous; face more than twice as long as broad, the central carination white margined with black on each side, the lateral ridges ochraceous.

Length incl. tegm.  $2\frac{1}{2}$  millim.

*Hab.* Ceylon; Peradeniya (*Green*).

Allied to *S. dohertyi*, *Dist.* (vol. iii, p. 471), from Tenasserim, but smaller, and separated at once by the sternal and abdominal black markings.

**3323. *Sogata pusana*, *Dist. A. M. N. H.* (8) ix, p. 191 (1912).**

Vertex, pronotum, and mesonotum ochraceous, the lateral areas of the pro- and mesonota more or less piceous; abdomen above black, more or less transversely testaceous near base and the lateral margins minutely spotted with the same colour; face black with the carinations brownish ochraceous; clypeus ochraceous; body beneath blackish, the legs ochraceous; tegmina pale brownish,

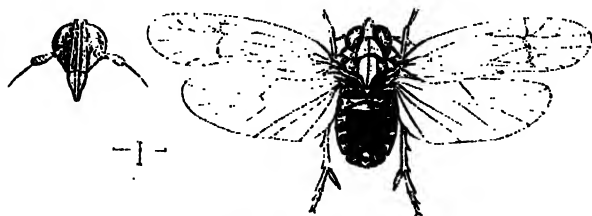


Fig. 100.—*Sogata pusana*.

subhyaline, an upper claval streak becoming macular at claval apex, a transverse linear discal spot beyond middle, and a subapical marginal suffusion continued along the veins to apical margin, fuscous; wings hyaline, the veins fuscous; posterior tibiae with a short spine near middle and a long apical mobile spur; wings broader but shorter than tegmina, with a short triangular cell near apex.

Length excl. tegm. 3; exp. tegm. 7 millim.

*Hab.* Bengal; Pusa (*Lefroy, Brit. Mus.*), Calcutta; Berhampur, Murshidabad District. South India; Chikkaballapura (*T. V. Campbell*).

Some examples from Calcutta are much paler in hue, the face being almost uniformly ochraceous, and the dark markings of the tegmina more obsolete.

**3324. *Sogata distincta*, Dist. A. M. N. H. (8) ix, p. 191 (1912).**

Vertex and pronotum creamy-white, the first with a small dark spot on each side of apex; mesonotum black, broadly, longitudinally, centrally creamy-white; abdomen above black, the basal area more or less testaceous; body beneath black, the carinations to face and clypeus, and the legs ochraceous; tegmina subhyaline, tinted with brownish ochraceous, which becomes a little darker on apical area, the outer margin of which is broadly fuscous, inwardly linearly connected with the apices of the longitudinal veins, the longitudinal veins minutely spotted with fuscous, an elongate marginal piceous spot near apex of clavus; wings subhyaline, the veins dark.

Length excl. tegm.  $2\frac{1}{2}$ ; exp. tegm. 7 millim.

*Hab.* Bengal; Pusa (*Mackenzie, Brit. Mus.*). South India; Chikkaballapura (*T. V. Campbell*). Ceylon; Peradeniya (*E. E. Green*).

Allied to the preceding species *S. pusana*, from which it differs in the distinct markings of the tegmina, &c.

**3325. *Sogata pallescens*, Dist. A. M. N. H. (8) ix, p. 192 (1912).**

Allied to the preceding species *S. distincta*, but with the tegmina—excepting an elongate marginal piceous spot near apex of clavus—almost uniformly subhyaline with the veins alone darker; body beneath black; carinations to face, the clypeus, lateral areas of prosternum, rostrum and legs ochraceous.

Length incl. tegm.  $3\frac{1}{2}$  millim.

*Hab.* Ceylon; Galle (*Bainbr. Fletcher, Brit. Mus.*). Bengal; Chapra (*Mackenzie, Brit. Mus.*); between Bolpore and Rampore Haut (*Paiva, Ind. Mus.*). Calcutta.

The three species of *Sogata* here previously described are easily separated by the tegminal colour and markings, but it is much more difficult in these small and fragile insects to discover adequate differential structural characters. I have, however, examined a series of specimens belonging to each species and the characters on which I have relied are quite constant.

**3326. *Sogata thoracica*, sp. n.**

Vertex of head and mesonotum pale castaneous; pronotum and posterior angle of mesonotum greyish white; face and clypeus brownish ochraceous, the carinations paler in hue; body beneath and legs ochraceous; tegmina greyish hyaline with the venation brownish ochraceous; face centrally and marginally strongly

carinate; head (including eyes) distinctly narrower than pronotum; vertex a little longer than broad, slightly widened at base; pronotum tricarinate; tegmina longly passing apex of abdomen, much longer than broad, the apex somewhat conically rounded.

Length incl. tegm. 4 millim.

*Hab.* Ceylon; Peradeniya (*E. E. Green*).

Genus **NILAPARVATA**. (Vol. III, p. 473.)

**NILAPARVATA GREENI**. (Vol. III, p. 473.)

Add: *Hab.* Bengal; Chapra (*Mackenzie*).

Genus **SARDIA**. (Vol. III, p. 475.)

*Hadeodelphax*, *Kirk. Rep. Exp. Stat. Haw. Plant. Assoc. Bull. i.*  
p. 410 (1906).

**SARDIA ROSTRATA**. (Vol. III, p. 475.)

Add: *Hab.* Ceylon; Galle, Hambantota (*Bainbrigge Fletcher, Brit. Mus.*); Bombay; Bassein Fort (*A. M., Brit. Mus.*); Agisamtensee, South end of Kayangulam (*Amundale*). Calcutta (*Paiva, Ind. Mus.*).

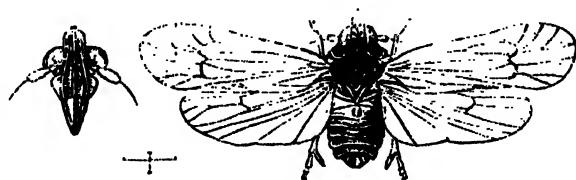


Fig. 101.—*Sardia rostrata*.

We were only enabled previously to copy Me'ichar's outline figure of this species; it is now possible to give a fuller and more exact figure. Kirkaldy (*Ann. Soc. Ent. Belg.* 1908, p. 14) referred to a species from Ceylon as *Sardia pluto*. He, however, gave no name as to its describer nor any reference as to publication. I do not know the species, and Kirkaldy added, "I do not think this is the same species as *rostrata*." In all probability it is!

### 3327. **Sardia pronotalis**, sp. n.

Vertex of head and pronotum greyish white; mesonotum ochraceous, the posterior margin greyish white; abdomen above black, the basal margin and extreme apex ochraceous or testaceous; body beneath brownish ochraceous; face fuscous with the carinations castaneous; legs flavous; tegmina fuscous brown, postcostal membrane and outer claval margin flavous, the latter containing two linear longitudinal black spots; wings subhyaline, the veins darker; head (including eyes) narrower than pronotum;

vertex narrow, about three times as long as breadth between eyes; face contracted beneath eyes.

Length excl. tegm. 3; exp. tegm. 6 millim.

*Hab.* Ceylon; Peradeniya (*E. E. Green*).

Differs from *S. rostrata*, Melich. by the apex of vertex being more truncate and not centrally produced; face less contracted beneath eyes; tegmina with the postcostal membrane flavous, pronotum greyish white, &c.

Genus **ORCHESMA**. (Vol. III, p. 476.)

3328. *Orchesma signata*, *Dist. A. M. N. H.* (8) ix, p. 192 (1912).

Vertex, pronotum, and mesonotum ochraceous, centrally and laterally carinate, the carinations more or less pale and narrowly margined on each side with black; abdomen above testaceous red; body beneath and legs pale ochraceous; face and lateral margins of abdomen beneath testaceous red; tegmina pale shining ochraceous, with the following creamy-white markings, viz., an oblique transverse fascia near base, a transverse fascia a little beyond middle,

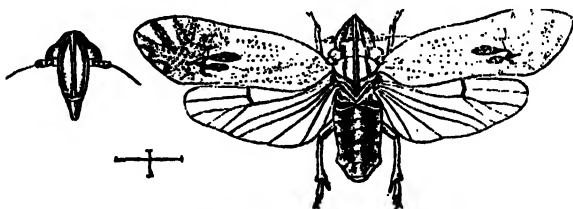


Fig. 102. — *Orchesma signata*.

three fasciate costal spots between stigma and apex, two small spots on apical margin and another beyond claval apex, near middle and on the central pale fascia two longitudinal black spots thickly studded with ochraceous; wings hyaline, the transverse veins distinctly black; face centrally and laterally carinate, the margins moderately roundly ampliate near middle; tegmina with the costal margin distinctly sinuate.

Length excl. tegm.  $2\frac{1}{2}$ ; exp. tegm. 8 millim.

*Hab.* Ceylon; Peradeniya (*Green, Brit. Mus.*). South India; Chikkaballapura (*T. V. Campbell*).

Genus **TROPIDOCEPHALA** to replace SMARA. (Vol. III, p. 478.)

*Tropidocephala*, *Stål, Öfv. Vet.-Ak. Förh.* 1853, p. 206; *Hem. Afr.* iv, p. 178 (1866); *Fieb. Rev. Mag. Zool.* (3) iii, p. 368 (1875); *Mats. Ann. Mus. Hung.* 1907, p. 57.

*Nephropsia*, *Costa, Ann. Mus. Zool. Nap.* i, p. 76 (1862); *Fieb. Verh. zool.-bot. Ges. Wien*, xvi, p. 518 (1866).

*Conicoda*, *Mats. Ent. Nach.* xxvi, p. 258 (1900).

*Ectopiopterygodelphax*, *Kirk. Rep. Exp. Stat. Haw. Plant. Assoc. Bull.* i, p. 412 (1906).

*Smara*, *Dist.* (vol. iii, p. 478).

Dr. Matsumura in monographing the genus *Tropidocephala*, Stål, has proposed a considerable amount of generic synonymy, which is here apparently followed, and the genus is thus shown to have a very wide Old World distribution. Matsumura has, however, figured the vertex of the species he has identified as *T. festiva*, *Dist.* as considerably larger and more elongate than in the type, while the pattern of the tegmina is altogether different.

The type of *Tropidocephala* is *T. flaviceps*, Stål, a South African species and one which I have not seen, nor has Matsumura, for he does not figure the species and only copies Stål's description, but he is able to figure *T. brunnipennis*, Sign., which Stål also included in his genus.

3329. *Tropidocephala luteola*. *Dist. A. M. N. H.* (8) ix, p. 193 (1912).

Head, pronotum, and mesonotum greenish ochraceous, lateral areas of the pro- and mesonota more or less infuscated, sometimes scarcely so; antennae black; abdomen above black, the basal area more or less transversely testaceous; body beneath black; face brownish ochraceous, the carinations paler; legs ochraceous; tegmina pale fuscous brown irrorated with greyish white, the principal pale markings being an elongate spot in clavus, an irregular transverse macular fascia near middle, commencing on

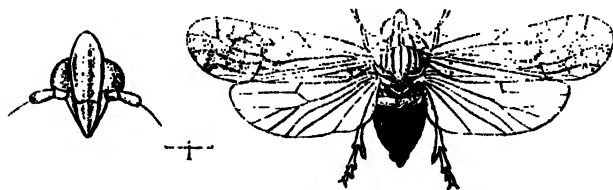


Fig. 103. *Tropidocephala luteola*.

costal margin and becoming more macular and indistinct towards the inner margin, a cluster of about three spots on costal membrane immediately beyond the transverse fascia, and distinct apical marginal spots; wings hyaline with the veins darker; vertex longer than broad, considerably shorter than breadth between outer margins of eyes and only moderately projecting in front of eyes, distinctly, strongly tricarinate; pro- and mesonota strongly tricarinate; face tricarinate, projecting considerably above eyes, greatest width about half its length.

Length excl. tegm. 2; exp. tegm. 6 millim.

*Hab.* Bengal; Pusa (*Lefroy, Brit. Mus.*); Calcutta (*Ind. Mus.*).

A species to be distinguished by the very short vertex of the head.

Genus **ZULEIKA.**

*Zuleika*, *Dist. A. M. N. H.* (8) ix, p. 193 (1912).

Type, *Z. bengalensis*, *Dist.*

*Distribution.* Calcutta.

Vertex narrow, nearly twice as long as broad, the lateral margins carinate and from which emerge two short oblique carinations between the eyes which converge at apex; eyes longer than broad, continued over the anterior pronotal angles; pronotum short, tricarinate, the lateral angles somewhat ampliate; mesonotum about as long as vertex and pronotum together, tricarinate; face long, about twice as long as broad, a little widened towards clypeus, the lateral margins straight, slightly oblique, distinctly carinate and slightly recurved, centrally strongly carinate, the anterior margin with the apical angles somewhat prominent; clypeus a little more than half as long as face, the disk tumid, the lateral margins carinately recurved; tegmina not reaching the apex of the abdomen, apical margins rounded, venation very coarse and distinct; posterior tibiæ somewhat long, with a spine near base and another near middle, apex with a long, strong, mobile spur.

In this Indian enumeration, *Zuleika* will find a place near *Dicranotropis*, Fieb. (vol. iii, p. 479).

3330. *Zuleika bengalensis*, *Dist. A. M. N. H.* (8) ix, p. 194 (1912).

Head, pronotum, and mesonotum ochraceous; eyes, face, and clypeus black; body beneath and legs, and abdomen above, ochraceous; tegmina with a slightly virescent tint, inner and

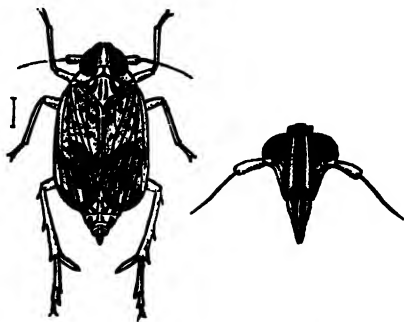


Fig. 104.—*Zuleika bengalensis*.

apical margins pale ochraceous, the apical margin and a spot near middle of inner margin black; structural characters as in generic diagnosis.

Length  $3\frac{1}{2}$  millim.

*Hab.* Calcutta (*Brit. Mus.*).

Genus **LIBURNIA**. (Vol. III. p. 480.)**3331. *Liburnia tuberculosa*, sp. n.**

Body, legs, and tegmina pale ochraceous; first and second joints of antennæ pale ochraceous, apex of first and tubercles to second black; vertex of head with the apical margin a little centrally and laterally produced, two small impressed black spots

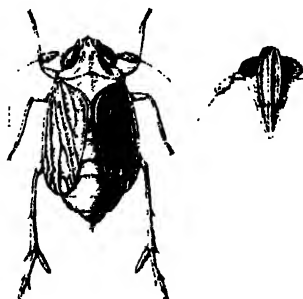


Fig. 105.—*Liburnia tuberculosa*.

near base; pronotum and mesonotum strongly tricarinate; antennæ with the second joint very robust, tuberculous and much longer than first joint; face more than twice as long as broad, centrally and laterally carinate, the central carination bifurcate near apex; tegmina subhyaline, not reaching apex of abdomen, the veins prominent.

Length incl. tegm. 3 millim.

*Hab.* Ceylon; Ilakgala (*E. E. Green*).

A species to be recognized by the length, thickness and rugosity of the second joint of the antennæ.

**3332. *Liburnia atromaculata*, sp. n.**

Body, legs, and tegmina very pale ochraceous; tegmina with a black apical spot; face centrally and laterally carinate, the central carination bifurcate near apex; vertex with two foveations near base, before which are two central carinations, the lateral margins also carinate, the apex slightly centrally and laterally produced; pro- and mesonota strongly tricarinate; tegmina not reaching apex of abdomen.

Length incl. tegm. 2½ millim.

*Hab.* South India; Kodaikanal (*T. F. Campbell*).

Apparently allied to *L. albicollis*, Motsch.



## Family MEMBRACIDÆ. (Vol. IV, p. 1.)

A considerable addition to the number of genera and species enumerated and described in Volume IV is made in the following pages, and there can be no doubt that there is still much more to be seen and done in the description and enumeration of Indian Membracidæ.

Genus **OXYRHACHIS**. (Vol. IV, p. 3.)**OXYRHACHIS TARANDUS**. (Vol. IV, p. 4.)

Attached to a specimen received from Rajshahi, E. Bengal, is a label "with larvæ on twig, attended by the ant *Camponotus compressus*, Fabr."

3333. **Oxyrhachis formidabilis**, sp. n.

Dark fuscous or black, thickly coarsely punctate, a strong central longitudinal castaneous carination extending through pronotal front to apex of posterior pronotal process, about apical half of this process darker, or black; legs brownish ochraceous, the femora (excluding apices) more or less black; tegmina dull hyaline, the base more or less dark ferruginous, the veins and extreme costal margin ferruginous-brown; lateral pronotal processes long and recurved, distinctly elevated, their apices subacute, strongly tricarinate; posterior process long, up-curved, thus barely extending beyond tegminal apices, beneath laminately ampliate and obscurely seriate.

Length 7 to 9; breadth lat. pronot. process. 5 to  $5\frac{1}{2}$  millim.

*Hab.* Dehra Dun, Suraj Bagh (on grass). Salem Dt., Athurkuppam.

Allied to *O. tarandus*, Fabr. (vol. iv, p. 4), but differing by the longer upturned lateral pronotal processes.

**OXYRHACHIS RUFESCENS** to replace *O. rudis*. (Vol. IV, p. 5.)

*Oxyrhachis rufescens*, *Walk. List Hom.* ii, p. 506 (1851).

*Oxyrhachis rudis*, *Walk. List Hom.* ii, p. 509 (1851).

The unique type of Walker's *O. rufescens* was and is an un-localized specimen. Now that I have seen a larger series of his *O. rudis*, I feel no doubt that they are one and the same species, and *rufescens* having been described on an earlier page of his list, that name must take precedence.

Add: *Hab.* South India; Mysore State (*T. V. Campbell*). E. Bengal; Rajshahi (Zool. Gardens, Alipore—on *Cassia sumatrana*). Satara Distr.; Medha, Yenna Valley (*F. H. Gravely*).

**OXYRHACHIS PALUS.** (Vol. IV, p. 6.)

Add: *Hub.* Coimbatore (*T. Bainbrigge Fletcher*).

**3334. *Oxyrhachis mangiferana*, sp. n.**

Pronotum brownish ochraceous, punctate and granulose, with a central percurrent castaneous longitudinal carination continued through the posterior process, of which the basal half is much paler ochraceous containing two large oblong dark spots, the apical half dark brownish ochraceous; face mostly black; legs ochraceous, the femora (excluding apices) black or blackish; tegmina dull hyaline, the venation and extreme costal margin castaneous, a blackish spot at apex of clavus, base ochraceous and darkly punctate; lateral pronotal processes robust, broad, upturned and moderately recurved, tricarinate; posterior pronotal process moderately sinuate, beneath laminately ampliate and obscurely finely serrate, distinctly extending beyond tegminal apices, tricarinate; legs distinctly dilated.

Length 8 to 9; breadth lat. pronot. process. 5 millim.

*Hub.* Dehra Dun, Suraj Bagh (on Mango).

Allied to *O. rufescens*, Walk., but a larger species, the lateral pronotal processes larger and much more upturned, markings of the posterior pronotal process distinct.

**3335. *Oxyrhachis lefroyi*, sp. n.**

Pronotum, face, body beneath, and legs pale fuscous brown; femora (excluding apices) darker fuscous brown; tegmina subhyaline, the veins castaneous, base fuscous brown; lateral pronotal processes very short and broad, flatly horizontally laminate, as

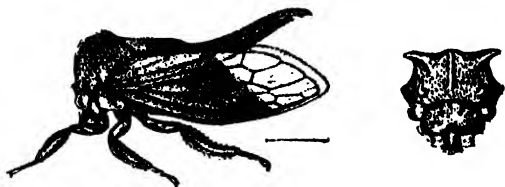


Fig. 106. *Oxyrhachis lefroyi*.

seen above, a little upwardly recurved as seen frontally, a percurrent central longitudinal carination through the pronotum including the posterior process, which is moderately upwardly recurved and scarcely passes the tegminal apices.

Length 6 to  $7\frac{1}{2}$ ; breadth lat. pronot. process. 3 to  $3\frac{1}{2}$  millim.

*Hub.* Pusa (*H. M. Lefroy*).

A species to be recognized by the short and broad lateral pronotal processes.

3336. *Oxyrhachis binsarus*, sp. n.

Pronotum dark castaneous brown, posterior marginal areas of the lateral pronotal processes above and their central disks beneath and almost apical half of posterior process, black; face purplish red suffused with black; legs brownish ochraceous, the femora (excluding apices) much darker, more or less palely longly pilose; tegmina subhyaline, the veins castaneous, a black spot at apex of inner angle, the apical veins also black, most of the veins palely shortly pilose; pronotal lateral processes robust, distinctly obliquely directed upwardly, the apices very slightly recurved and obtusely broadly angulate, tricarinate, the posterior process with nearly its apical half distinctly recurved, the whole pronotum including posterior process distinctly centrally longitudinally carinate; base of tegmina black with ochraceous suffusions, distinctly punctate.

Length  $8\frac{1}{2}$ ; breadth lat. pronot. process. 5 millim.

*Hab.* Binsar (Kumaon), 7700 feet (*A. D. Imms*).

Allied to *O. egyptianus*, Dist., but differing in the colour of the head, pronotum, and legs and the length and shape of the posterior pronotal process.

Genus **HYPSAUCHENIA**. (Vol. IV, p. 10.)**HYPSAUCHENIA HARDWICKI**. (Vol. IV, p. 10.)

Add: *Hab.* Assam; Cheerapungi, Khási Hills, 4400 feet (*S. W. Kemp*).

3337. *Hypsauchenia kemp*i, sp. n.

Black; basal area of posterior pronotal process, a central anterior marginal space to tegmina, and tibiæ and tarsi (more

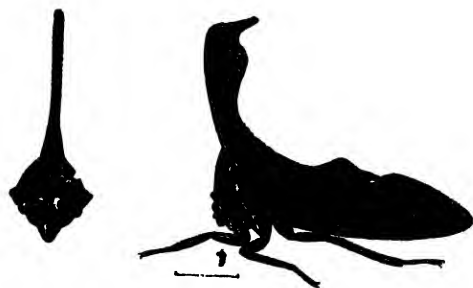


Fig. 107.—*Hypsauchenia kemp*i.

or less) pale dull sanguineous; a small white spot on tegminal margin near apex of posterior pronotal process; pronotum longly

## TELINGANA.

produced upwards, its apex subacute and directed backwardly, behind this it is inwardly lobately produced, its central ridge before the convexly produced posterior process distinctly finely serrate.

Length 8 millim.

*Hab.* Assam; Cherrapungi (*S. W. Kemp*). Upper Burma; Sadon (*E. Colenso*).

Allied to *H. uncinata*, Stål (vol. iv, p. 12, fig. 8), but with the anterior pronotal process much more perpendicularly elevated; the concave elevation of the posterior process shorter and more abruptly raised; colour markings also distinct.

### 3338. *Hypsauchenia manni*, sp. n.

Allied to the preceding species, *H. kempi*, but differing in the following characters:—The anterior pronotal process is shorter, broader, more outwardly curved apically, its apex oblique not acute; tibiae ochraceous; other characters as in *H. kempi*.

Length 7 millim.

*Hab.* Darjiling; Pussumbing (*H. H. Mann*).

I received a single specimen of this species in 1906, and have not yet seen another.

[*Pyrgauchenia bredtini*, Schmidt, described from Sumatra, has been by a slip ascribed to Ceylon in the Zool. Record (1906, p. 420). Reference is therefore here made to the misprint to explain the absence of the species from the enumeration of the Indian fauna.]

(Genus **LEPTOBELUS**. (Vol. IV, p. 15.)

**LEPTOBELUS GAZELLA**. (Vol. IV, p. 16.)

Add: *Hab.* Pusa (*H. M. Lefroy*).

(Genus **TELINGANA**. (Vol. IV, p. 17.)

### 3339. *Telingana cognata*, sp. n.

Head and pronotum black, thickly greyishly pilose, posterior pronotal process castaneous; lateral areas of sternum and basal margin of scutellum tomentosely white; femora black, their apices castaneous, anterior and intermediate tibiae fuscous, posterior tibiae ochraceous, apices of tarsi black; scutellum (excluding base) blackish; tegmina shining ochraceous, basal area, nearly costal half, and inner apical margin, black; pronotum strongly, centrally, longitudinally carinate, the lateral angles robust, obliquely directed upwardly and apically recurved, their margins carinate, their apices subacute, the posterior process slender,

tricarinate, well elevated above the scutellum, and obliquely directed downward to the posterior angle of the inner tegminal margin which it distinctly passes; the frontal pronotal area and the face is longly and thickly greyish pilose; tibiæ thickly finely pilose.

Length  $6\frac{1}{2}$ ; breadth lat. pronot. process. 3 millim.

*Hab.* Nilgiri Hills (*T. V. Campbell*).

Allied to *T. curvispina*, Stål (vol. iv, p. 18, fig. 14), but with the pronotal lateral angles more robust and less expanded, and seen from the front more obliquely upwardly elevated.

**TELINGANA DECIPIENS.** (Vol. IV, p. 20, fig. 17.)

Add: *Hab.* Ceylon; Nuwara Eliya, Kandy (*E. E. Green*).

**3340. Telingana ornanda, sp. n.**

Head and pronotum black; lateral margins of face, four spots on posterior margin of pronotal front, lateral margins of pronotum, base and apex of scutellum and lateral areas of sternum tomentosely white; legs pale testaceous, posterior tibiæ ochraceous, apices of tarsi black; tegmina bronzy-ochraceous, base, costal and subcostal areas, and very narrow apical margin, black; a small white spot near middle; pronotum thickly coarsely punctate, strongly, centrally, percurrently ridged, the lateral angles almost horizontally produced, their apices acute and recurved, the posterior process slender, tricarinate, its apex considerably passing the posterior angle of the inner tegminal margin; apex of scutellum moderately upwardly recurved, its central area black; the tegminal black areas punctate.

Length  $5\frac{1}{2}$ ; breadth lat. pronot. process. 3 millim.

*Hab.* South India; Kodaikanal (*T. V. Campbell*).

Allied to *T. decipiens*, Kirby (vol. iv, p. 20, fig. 17), but with the lateral pronotal angles much more recurved, and thus shorter in expanse, posterior pronotal process straighter and more oblique.

**3341. Telingana campbelli, sp. n.**

Head, pronotum, and scutellum bright bluish black; eyes castaneous; lateral areas of the sternum and basal margin of the scutellum tomentosely white; legs black; tegmina bronzy-ochraceous, basal angle black immediately followed by a whitish transverse spot or fascia; pronotum very coarsely punctate, centrally, percurrently, strongly ridged, the lateral pronotal processes robust, carinate, horizontally, only slightly apically upwardly produced, the apices obtusely acute, the posterior process strongly tricarinate, well separated from the scutellum at base and then oblique to apex which is acute and passes the

## TELANGANA.

posterior angle of the inner tegminal margin; scutellum longer than broad, robust, its apex subacute and very slightly raised.

Length 7-8; breadth lat. pronot. process. 4-5 millim.

*Hab.* South India; Kodaikanal (*T. V. Campbell*).

This species is to be recognized by the strongly horizontally produced anterior pronotal angles.

### 3342. *Telingana balteata*, sp. n.

Pronotum above and scutellum bronzy-black, the latter with an ochraceous spot at each basal angle; posterior pronotal process castaneous; front of pronotum and face thickly longly ochraceously pilose; sternum largely ochraceously tomentose; femora black, their apices and the tibiae and tarsi pale castaneous, apices of the tarsi black; tegmina blackish, a large stramineous apical



Fig. 108. — *Telingana balteata*.

spot and a larger inner patch pale subhyaline; pronotum centrally carinate with the lateral angles upwardly recurved, posterior process slender, tricarinate, a little undulate and extending beyond the posterior angle of the inner margin of the tegmen; basal area of tegmen strongly densely punctate.

Length  $7\frac{1}{2}$  to 8; breadth lat. pronot. process. 4 millim.

*Hab.* South India; Kodaikanal (*T. V. Campbell*).

### 3343. *Telingana travancorensis*, sp. n.

Head, pronotum, and scutellum black; margins and a central fascia to face, two longitudinal narrow fasciae to pronotal front, lateral margins of pronotal front, lateral areas of sternum, and base of scutellum, ochraceous; legs fuscous, the tarsi ochraceous with the apices black; tegmina ochraceous, basal angle, and more than upper half (but not reaching apex) black, apical margin dark castaneous; pronotum very coarsely punctate, the lateral angles strongly curved and obliquely upwardly produced, their apices subacute and carinate, the posterior process slender, tricarinate, convexly oblique, its apex considerably passing the posterior angle of the inner tegminal margin; legs pilose.

Length 6; breadth lat. pronot. process.  $3\frac{1}{2}$  millim.

*Hab.* Travancore; W. Ghats.

**TELINGANA CURVISPIA**, Stål. (Vol. IV, p. 18, fig. 14.)

*Telingana decipiens*, Kirby. (Vol. IV, p. 20.)

Add: *Hab.* South India; Kodaikanal (*T. V. Campbell*).

Having had the opportunity of examining more specimens, I cannot now consider that more than one species is represented.

**TELINGANA PARIA**. (Vol. IV, p. 18, fig. 15.)

Add: *Hab.* South India; Kodaikanal (*T. V. Campbell*).

In the South Indian specimens, the more or less castaneous coloration of the head and pronotum is replaced by blackish.

**TELINGANA IMITATOR**. (Vol. IV, p. 21.)

Add: *Hab.* Ceylon; Maskeliya (*G. B. de Mowbray*).

### 3344. *Telingana consobrina*, sp. n.

Head, pronotum, scutellum, and body beneath black; femora black, their apices and the tibiæ more or less dark ochraceous, the tarsi black or blackish; tegmina stramineous, the veins on apical area blackish, base black; pronotum thickly finely punctate, the lateral processes a little recurved, posterior process



Fig. 109.—*Telingana consobrina*.

slender, a little sinuate, centrally and laterally carinate above, the central carination continued throughout pronotum; scutellum longer than broad, coarsely punctate; tegmina coarsely punctate on the black basal tegminal area.

In some specimens the lateral margins of pronotum and sternum and two spots at the base of scutellum are cretaceously sericeous.

Length 4; breadth lat. pronot. process. 2 millim.

*Hab.* South India; Kodaikanal (*T. V. Campbell*).

Allied to *T. imitator*, Kirby (vol. iii, p. 21), from which it differs by the shorter pronotal spines, the shorter frontal area of the pronotum, shorter apical areas of the tegmina, different colour of the legs, &c.

Genus **PARAPOGON**. (Vol. IV, p. 22.)3345. *Parapogon insignis*, sp. n.

Head, pronotum, sternum, and legs dark brownish ochraceous; abdomen beneath brownish ochraceous with the segmental margins paler; tegmina paler ochraceous, with a broad longitudinal fascia above and continued beyond clavus, and a large costal spot near apex shining stramineous; pronotum punctate, centrally strongly carinate, the carination continued throughout the posterior process

Fig. 110. -- *Parapogon insignis*.

which is strongly punctate, compressed, and also laterally carinate, the apical area narrowed, the apex blackish and passing the posterior angle of the inner margin of tegmina; lateral pronotal angles as seen from above, robust, moderately elevated, and slightly recurved; veins to apical area of the tegmina strongly curved inwardly.

Length  $5\frac{1}{2}$  to 7; breadth lat. pronot. process. 1 millim.

Hab. Ceylon; Nuwara Eliya (*Brit. Mus.*).

Genus **CONVECTOR**, nov.

Type, *C. cavendus*, Dist.

Distribution. Nilgiri Hills.

Pronotum somewhat long, posteriorly truncate, centrally finely longitudinally carinate, lateral transverse processes subhorizontally not upwardly recurved, the posterior process curved and raised above scutellum but impinging on it near its apex, then following the curve of the inner margin of the tegmina, tricarinate, and about equally broad till the apex which is acute and (in type) slightly passing the posterior angle of the inner tegmental margin; scutellum exposed, about as long as broad; tegmina with the apical areas (excluding the lower) straight; legs simple.

Allied to *Indicopleustes*, Dist. (vol. iv, p. 25).

3346. *Convector cavendus*, sp. n.

Head, pronotum, and scutellum black, a white tomentose spot on each basal angle of the scutellum and the lateral areas of the sternum of a similar colour; legs brownish ochraceous, apices of the tarsi black; tegmina bronzy-ochraceous, the basal area, upper



apical margin, and margins of the upper apical cell black, costal margin narrowly testaceous; pronotum thickly coarsely punctate, the lateral angles carinate, subhorizontally produced, their apices



Fig. 111.—*Convectus cavendus*.

subacute and slightly recurved, the apex of the posterior process slightly passing the posterior angle of the inner tegminal margin; tibiæ pilose; tegmina with the basal black area punctate; other structural characters as in generic diagnosis.

Length 7; breadth lat. pronot. process. 3 millim.

*Hab.* Nilgiri Hills (*T. V. Campbell*).

#### Genus **LEPTOCENTRUS**. (Vol. IV, p. 28.)

##### **LEPTOCENTRUS TAURUS**. (Vol. IV, p. 28.)

Add: *Hab.* Kumaon, Shamkhet (*Pusa Coll.*). Bengal: Kushtea (*J. T. Jenkins*), Damukdia Ghat (*Ind. Mus.*), Berhampur, Murshidabad (*Ind. Mus.*). Orissa: Balighai near Puri (*Ind. Mus.*). Madras (*Ind. Mus.*). Travancore (*Ind. Mus.*). Dehra Dun, Sylhet, Chandkhira, Nilgiri Hills (*Sir G. Hampson*). Burma; Moulmein (*N. Annandale, Ind. Mus.*).—Singapore.

##### **LEPTOCENTRUS SUBSTITUTUS**. (Vol. IV, p. 29.)

Add: *Hab.* South India; Mysore (*T. V. Campbell*). Bengal; Rajmahal (*N. Annandale*), Bhogaon, Purneah Distr. (*C. A. Pavia*). Orissa; Gopkuda Island, Lake Chilka (*Ind. Mus.*). Bengal; Rajmahal (*N. Annandale*).

#### 3347. **Leptocentrus obortus**, sp. n.

Pronotum black, longly, palely pilose; face of head fuscous with a very large rounded white tomentose spot; lateral areas of sternum and scutellum (excluding apex) whitely tomentose; legs piceous, longly pilose; tegmina pale bronzy-brown with opaline reflections, basal area brownish ochraceous, costal area blackish, distinctly broken near base and widest on apical area; pronotum coarsely punctate, the lateral angles strongly produced, subhorizontally but a little upwardly extended, the apical areas carinate, the apices obliquely narrowed and terminally acute, the

posterior process moderately slender, tricarinate, raised at base and then somewhat horizontally produced, its apex subacute and distinctly passing the posterior angle of the inner tegminal margin.

Length 7; breadth lat. pronot. process. 5 millim.

*Hab.* Burma; Moulmein (*Brit. Mus.*).

Allied to *L. taurus*, Fabr., but differing by the more upwardly produced lateral pronotal angles and the more oblique apices of same, the straighter pronotal posterior process, &c.

**3348. *Leptocentrus scutellatus*, sp. n.**

Head and pronotum purplish brown, the first thickly palely pilose; scutellum pale virescent, the base purplish brown with a pale spot at each basal angle; body beneath and legs ochraceous; tegmina very pale bronzy-brown, the upper halves broadly reflecting the dark abdomen beneath; pronotum coarsely punctate, the lateral processes only of moderate length and only slightly curved,



Fig. 112. - *Leptocentrus scutellatus*.

posterior process slender, tricarinate, sinuate, its apex depressed and slightly passing the posterior angle of the inner tegminal margin, widely separated from scutellum, the central carination continued through pronotum; legs pilose.

Length 9 to 10; breadth lat. pronot. process. 4 to 5 millim.

*Hab.* South India; Kodaikanal (*T. F. Campbell*).

**3349. *Leptocentrus bajulans*, sp. n.**

Head and pronotum black, somewhat longly palely pilose; legs brownish ochraceous, palely pilose, the femora a little darker; lateral areas of sternum ochraceous; scutellum more or less



Fig. 113. - *Leptocentrus bajulans*.

ochraceously tomentose; tegmina pale bronzy, reflecting the dark abdomen beneath; pronotum thickly coarsely punctate, centrally percurrently carinate, the lateral pronotal processes strongly

carinate, obliquely broad, their apices strongly recurved and acute, posterior pronotal process slender, curved at base, strongly tricarinate, remote from tegmina, its apex subacute and passing the posterior angle of the inner tegminal margin; tegmina wrinkled, the venation ochraceous, the basal area darker and punctate.

Length 6-6½; breadth lat. pronot. process. 4-4½ millim.

*Hab.* Bengal; Calcutta, Murshidabad Distr., Berhampur (*Major R. Milne*). Chittagong Hill Tracts, Rangamati (*R. Hodgart*). Travancore, Kulattupuzha (*N. Annandale*). Cochin State; Chalahudi (*F. H. Gravely*). Burma; Moulmein (*N. Annandale*).

The salient structural character in this species is found in the position of the posterior pronotal process which is remote from the tegmina, but curved at the base as in *Leptocentrus* and not straight as in *Nilautama*.

*CENTROTYPUS SECURIS.* (Vol. IV, p. 34.)

Add: *Hab.* Cochin State; Trichur (*F. H. Gravely*).

*CENTROTYPUS FLAVESCENS.* (Vol. IV, p. 35.)

Add: *Hab.* North India; Dehra Dun.

Genus **EMPHUSIS.** (Vol. IV, p. 36.)

3350. *Emphusis perarmatus*, sp. n.

Head and pronotum indigo-black; body beneath and legs duller and more opaque indigo-black and more or less palely pilose; tegmina shining stramineous, extreme base and costal area black, apical area bronzy-brown; pronotum very coarsely punctate, the



Fig. 114.—*Emphusis perarmatus*.

lateral angles very broad and recurved, seen from the front they appear more upwardly recurved, posterior pronotal process strongly tricarinate, somewhat attenuate, its apex passing the posterior angle of the inner tegminal margin.

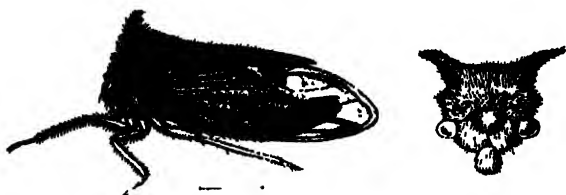
Length 10; breadth lat. pronot. process. 7 millim.

*Hab.* Cochin State; Trichur (*F. H. Gravely*).

In colour and markings allied to *E. malleus*, Walk. (vol. iv, p. 37, fig. 29), but differing strongly from that species by the shape of the lateral pronotal processes.

Genus **PERIAMAN**. (Vol. IV, p. 37.).3351. *Periaman pilosus*, sp. n.

Head, pronotum, scutellum, and face shining black, thickly and somewhat longly pilose; tegmina bronzy-brown, the basal area blackish; sternum thickly darkly ochraceously pilose; abdomen beneath blackish, the segmental margins ochraceous; legs brownish ochraceous; pronotum thickly, rather coarsely punctate, the pronotal angles well produced, distinctly recurved, their apices

Fig. 115. —*Periaman pilosus*.

subacute; posterior pronotal process in a continuous line with pronotal base, gradually narrowing to apex, prominently coarsely punctate, not or scarcely extending beyond the posterior angle of the inner tegminal margin; tegmina bronzy-brown, reflecting the dark abdomen beneath, the apical veins moderately granulate.

Length 8; breadth lat. pronot. process. 3 millim.

*Hab.* E. Himalayas; Kurseong (*D'Abrun*).

Genus **IMPORCITOR**, nov.

Type, *I. typicus*, Dist.

*Distribution.* Nilgiri Hills.

Pronotum strongly centrally ridged, the lateral angles short, broad and strongly recurved, the posterior process strongly sinuately waved, moderately arched at base where it is separated from the scutellum (which is nearly equally long as broad) and then concavely sinuate and following the direction of the tegmina, its apex slender and reaching the posterior angle of the inner tegminal margin, the central ridge of the pronotum extends frontally to the face; femora moderately thickened; tegmina elongate, the apical cells straight or straightly oblique.

By the sinuately waved posterior pronotal process resembling the genus *Ehhul* which, however, belongs to my division *Gargaria*, in which the lateral processes to the pronotum are absent.

3352. *Imporcitor typicus*, sp. n.

Body and tegmina brownish ochraceous with much darker markings; pronotum with the produced lateral angles and two-frontal oblique spots black or blackish, posterior pronotal process

dark ochraceous, castaneous at base and near middle; sternum castaneous with greyish pilose markings (imperfectly seen in carded type); legs piceous, femora more or less apically ochraceous; tegmina subochraceously opaque, basal area and two transverse



Fig. 116.—*Imporcitor typicus*.

fasciæ piceous, apical area also with longitudinal black markings; other structural characters as in generic diagnosis.

Length 7; breadth lat. pronot. process. 3 millim.

*Hab.* Nilgiri Hills (*T. V. Campbell*).

Genus **OTINOTUS**. (Vol. IV, p. 39.)

**3353. *Otinotus campbelli*, sp. n.**

Head, pronotum, and legs fuscous brown, more or less thickly greyishly pilose; apex of scutellum greyish white; tegmina dull bronzy-ochraceous, the venation fuscous brown and shortly greyishly hirsute, two ochraceous spots on basal area, extreme base fuscous brown; pronotum with the lateral angles moderately short, a little upwardly directed, broad at base, their apices subacute and recurved, centrally, longitudinally, percurrently carinate, the posterior process slender, tricarinate, slightly separated from the scutellum, but impinging on the tegmina, the apex not passing the posterior angle of inner tegminal margin; base of tegmina obscurely coarsely punctate.

Length 9 millim.

*Hab.* Nilgiri Hills (*T. V. Campbell*).

Allied to *O. ammon*, Buckt., but differing in the shorter and broader lateral pronotal angles, &c.

**3354. *Otinotus badius*, sp. n.**

Pronotum reddish brown; face darker and thickly pilose; scutellum with the base black, the apical area reddish brown; legs reddish-brown pilose; lateral areas of the sternum longly greyishly pilose; tegmina subhyaline, wrinkled, the veins ochraceous, the base and apical area of costal margin blackish; pronotum coarsely punctate, the lateral angles somewhat short, a little upwardly and anteriorly produced, their apices obtusely acute and very slightly recurved, posterior pronotal process moderately sinuate, distinctly separated from the scutellum but not elevated above the tegmina, its apex slender, acute, reaching but scarcely passing the posterior angle of the inner tegminal margin.

Length 5; breadth lat. pronot. process 3 millim.

*Hab.* Nilgiri Hills (*T. V. Campbell*).

Allied to *O. rufescens*, Dist. (vol. iv, p. 40), but differing by the considerably shorter and more forwardly and upwardly directed anterior pronotal angles, the more elevated basal portion of the posterior pronotal process, &c.

**OTINOTUS KARNIANUS**, n. nom. *Dist. A. M. N. H.* (8) vol. xiv, p. 352 (1914).

*Otinotus pallipes* (Vol. IV, p. 40), nom. præocc.

*Centrotus pallipes*, Walk., from New Guinea proves to be an *Otinotus*.

### 3355. *Otinotus albomaculatus*.

Head and pronotum black; scutellum black with a prominent white spot in each basal angle; sternum black with lateral white spots; legs pale castaneous, apices of the tibiae and the tarsi more or less black; tegmina shining ochraceous, basal angle black followed by a prominent rounded white spot, the costal margin narrowly black; pronotum coarsely punctate, strongly centrally longitudinally ridged, the lateral angles somewhat short with their apices subacute and a little directed backwardly, posterior process slender, tricarinate, sinuate, a little elevatedly separated from the scutellum, but not elevated above the tegmina, nor passing the posterior angle of inner tegminal margin.

Length  $5\frac{1}{2}$  millim.

*Hab.* Nilgiri Hills (*T. V. Campbell*).

### 3356. *Otinotus mimicus*, sp. n.

Head and pronotum dark castaneous brown; scutellum dark castaneous brown with a large and prominent white spot in each basal angle; sternum laterally with confluent white spots; legs castaneous, apices of the tibiae and tarsi more or less black;



Fig. 117.—*Otinotus mimicus*.

tegmina pale shining ochraceous, basal area black, apically containing a large rounded white spot, the costal and inner apical margins narrowly black; pronotum thickly strongly punctate, centrally longitudinally ridged, the lateral angles laterally produced, their apices distinctly moderately recurved; posterior process

slender, tricarinate, the apex passing the posterior angle of inner tegminal margin.

Length 8; breadth lat. pronot. process. 4 millim.

*Hab.* Nilgiri Hills (*T. V. Campbell*).

By the pale spots and the colour of the legs resembling *O. albomaculatus*, Dist., but differing in the larger size, the longer, stronger and more recurved pronotal angles, and by the longer posterior pronotal process passing the posterior angle of inner tegminal margin.

*OTINOTUS ONERATUS.* (Vol. IV, p. 40.)

*Otinotus pallescens.* (Vol. IV, p. 41.)

From a large amount of material received since I formerly dealt with the Indian species contained in this genus, I find that the variation both in coloration and in the apices of the lateral pronotal processes will not admit of the above two forms being longer kept as separate species.

Add: *Hab.* South India; Dehra Dun (*Chait Ram*). Bengal; Rajmahal (*N. Annandale, Ind. Mus.*); Dhappa, near Calcutta (*F. H. Gravely*); Salt Lakes, near Durgapur. Madras; Janjain Distr., Rambhia (*N. Annandale*). Orissa; Satpara (*N. Annandale*); Kathiawar, Patan, Somnath (*S. P. A.*). Satara Distr.; Yenna Valley, Medha (*F. H. Gravely*). W. Bengal; Saran, Siripur (*Ind. Mus.*).

*OTINOTUS ELONGATUS.* (Vol. IV, p. 41.)

Add: *Hab.* South India; Mysore State (*T. V. Campbell*); Trivandrum; Travancore.

### 3357. *Otinotus brevicornis*, sp. n.

Head and pronotum black; posterior pronotal process castaneous brown; legs brownish ochraceous, body beneath, especially the sternum, thickly palely pilose; exposed margins of the scutellum



Fig. 118. † *Otinotus brevicornis*.

and lateral areas of the sternum opaque creamy-white; tegmina dull, subhyaline, reflecting the dark abdomen beneath; lateral pronotal angles short, somewhat obliquely directed upwardly, their apices moderately recurved, pronotum thickly punctate; the posterior-process slender, sinuate, scarcely or only a little separated from

the scutellum, the apex passing the posterior angle of the inner margin of the tegmina.

Length 5 to 5½; breadth lat. pronot. process. 1½

Hab. Punjab, Lahore (N. Annandale & Doherty).

3358. *Otinotus transversus*, sp. n.

Head and pronotum fuscous brown, the of posterior process ochraceous, its lateral ridges legs ochraceous; sternum confluent, maculose subhyaline, the veins darker, the basal angular pronotum with the frontal area thickly coar- lateral angles slender, laterally produced, the slender, tricarinate, slightly passing the posterior inner tegminal margin.

Length 4; breadth lat. pronot. process. 2½ millim.

Hab. Punjab; Lahore

A species to be distinguished by the transverse lateral pronotal angles, the black lateral ridges of the posterior pronotal process, &c.

Genus **POGON**. (Vol. IV, p. 42)

**POGON CUPREUM**. (Vol. IV, p. 43)

Add: Hab. Ceylon; Madulsima (P. B. Fletcher).

**POGON AURICULATUM**. (Vol. IV, p. 44)

I only knew this species by a specimen from Ceylon in the Stockholm Museum. Mr. Green has since sent me a specimen from the Horton Plains on that island.

3359. *Pogon albosignatus*, sp. n.

Head, pronotum, and femora black: tibiae and tarsi pale castaneous; tegmina bronzy-brown, base, frontal area, and a large spot near posterior angle of inner margin black, a somewhat



Fig. 119.—*Pogon albosignatus*

large spot near middle of anterior area, a smaller costal spot beyond it, and a spot at posterior angle of inner margin greyish white; basal angles of scutellum greyish white; pronotum thickly finely punctate, centrally longitudinally ridged, the lateral angles robust, somewhat strongly produced and recurved, the apices



oblique and subacute, posterior pronotal process slender, tricarinate, a little passing the posterior angle of inner tegminal margin; base and basal upper area of tegmina distinctly finely punctate.

Length  $5\frac{1}{2}$  to 6 millim.

*Hab.* Ceylon; Pundaluoya, Hakgala (*E. E. Green*).

Genus **CENTROTUS**. (Vol. IV, p. 45.)

**CENTROTUS INDICATUS**. (Vol. IV, p. 46.)

Add: *Hab.* South India; Chikkaballapura (*T. V. Campbell*). Ceylon; Madulsima (*T. B. Fletcher*).

Genus **ANCHON**. (Vol. IV, p. 49.)

**ANCHON PILOSUM**. (Vol. IV, p. 49.)

Add: *Hab.* South India; Mysore State (*T. V. Campbell*). Pusa; Behar (*C. S. Misra*). Coimbatore. Shevaroy Hills (*T. B. Fletcher*). Kumaon.

**ANCHON ULNIFORME**. (Vol. IV, p. 50.)

Add: *Hab.* South India; Mysore State (*T. V. Campbell*).

**ANCHON RECTANGULATUM**. (Vol. IV, p. 51.)

Add: *Hab.* South India; Mysore State (*T. V. Campbell*).

Genus **ANCHONOIDES**, nov.

Type, *A. typicus*, Dist.

*Distribution.* Ceylon.

Allied to *Anchon* (vol. iv, p. 49), but differing in the structure of the posterior pronotal process, which rises obliquely direct near base of pronotum and is then strongly obliquely and sinuately directed downwards, the apex moderately passing the posterior angle of the inner tegminal margin, but strongly inwardly lobately widened near middle and there attached to the body at the apex of the scutellum, which is longer than broad.

3360. *Anchonoides typicus*, sp. n.

Head and pronotum castaneous brown, a greyish-white spot at each basal angle of the scutellum; body beneath and legs brownish ochraceous; tegmina bronzy-ochraceous, the upper half to beyond middle where it is connected with the inner margin distinctly darker and containing three small greyish-white spots in oblique series, the centre of the inner apical cell also somewhat blackish; pronotum thickly coarsely punctate, the lateral angles long,

robust, recurved and apically acute, the posterior process obtusely



Fig. 120.—*Anchonoides typicus*.

angulate above near base, distinctly tricarinate, the apical area slender and closely depressed to the inner margin of tegmen.

Length 9; breadth lat. pronot. process.  $6\frac{1}{2}$  millim.

*Hab.* Ceylon; Hakgala (*P. E. Green*).

Genus **TRICENTRUS**. (Vol. IV, p. 53.)

3361. *Tricentrus kamaonensis*, sp. n.

Pale greyish brown, thickly greyish pilose, pronotal lateral angles distinctly darker and more blackish; legs ochraceous, thickly greyish pilose; tegmina subhyaline, wrinkled, venation ochraceous, except on apical area where it is blackish; pronotum centrally, percurrently, longitudinally carinate, the lateral angles robust, transversely and a little upwardly extended, their apices oblique and a little recurved, their upper surfaces rugose and punctate, posterior process moderately attenuated and darker on posterior half, the apex very slightly passing the posterior angle of the inner tegminal margin, both centrally and laterally carinate.

Length 6; breadth lat. pronot. process. 4 millim.

*Hab.* Kumaon; Bhimtal.

A species to be distinguished by its somewhat large size, coarsely pilose character, the strong and apically oblique pronotal lateral angles, the somewhat slender apex to the posterior pronotal process, &c.

3362. *Tricentrus repandus*, sp. n.

Head and pronotum dark castaneous brown, moderately ochraceously pilose, apex of posterior process blackish; legs piceous, the tibiae paler and distinctly, shortly, densely, greyish pilose; tegmina subhyaline, moderately wrinkled, the basal angular area castaneous brown outwardly margined by a somewhat indistinct pale transverse fascia, venation brownish ochraceous; pronotum distinctly finely punctate, irregularly pilose, centrally, percurrently longitudinally carinate, the lateral angles of moderate length, distinctly upwardly and obliquely directed, the apices narrowed, somewhat strongly recurved, and subacute, the margins prominently carinate, posterior process apically attenuated, laterally

subcarinate, the apex about reaching the posterior angle of the inner tegminal margin; tegmina with the basal dark area thickly finely punctate.

Length 7; breadth lat. pronot. process.  $3\frac{1}{2}$  millim.

*Hab.* Assam.

This species may be recognized by the upwardly and apically strongly recurved lateral pronotal angles, the more compressed and centrally carinate posterior pronotal process, the thickly pilose tibiæ, &c.

### 3363. *Tricentrus euschistus*, sp. n.

Head and pronotum black, more or less finely pilose; eyes and legs bright ochraceous; tegmina subhyaline, moderately wrinkled, venation brownish, the basal angular area blackish; pronotum thickly punctate, centrally, longitudinally, percurrently carinate, the lateral angles transversely slightly upwardly produced, the apices acute, posterior process tricarinate, its apex acute, a little upwardly produced and slightly passing the posterior angle of the inner tegminal margin; the dark basal angular area of the tegmina coarsely punctate.

Length 5; breadth lat. pronot. process. 3 millim.

*Hab.* Tenasserim; Myitta (*Doherty*).

The straightly produced, acute pronotal angles of this species is very distinctive, and recalls the appearance in that respect of the Pentatomid genus *Euschistus*.

### 3364. *Tricentrus bovillus*, sp. n.

Pronotum and legs testaceous; face blackish, very thickly greyish pilose; extreme apices of the lateral angles and posterior process to pronotum black; tegmina subhyaline, wrinkled, basal angle fuscous; pronotum thickly punctate, longitudinally and percurrently centrally ridged, the lateral angles strongly and transversely horizontally and slightly upwardly produced, their apices subacute; posterior process tricarinate, its apex subacute and slightly passing the posterior angle of the inner tegminal margin; the dark basal angle of the tegmina coarsely punctate.

Length 6; breadth lat. pronot. process. 4 millim.

*Hab.* Burma; Moulmein.

Allied to the preceding species, *T. euschistus*, from which it differs by the larger size, different colour, more robust lateral pronotal angles, the non-apically recurved posterior pronotal process, &c.

### 3365. *Tricentrus horizontalis*, sp. n.

Pronotum dark bronzy-brown; face blackish, thickly, longly, palely pilose; legs more or less pilose, the tibiæ more strongly so; femora black, their apices and the tibiæ more castaneous brown, lateral areas of the sternum white; tegmina bronzy, wrinkled,

the veins darker, the basal angular area bronzy-brown, immediately followed by a large white costal spot, a small white spot at each basal angle of the scutellum; pronotum sparsely, finely, longly pilose, the lateral angles widely robust and longly horizontally extended, their apices oblique and very slightly recurved, centrally, percurrently, longitudinally carinate, the posterior process coarsely punctate, tricarinate, the apex subacute, slightly recurved and just passing the posterior angle of the inner tegminal margin.

Length  $5\frac{1}{2}$ ; breadth lat. pronot. process. 4 millim.

*Hab.* Burma; Moulmein.

A species to be recognized by the very robust pronotal lateral processes and by the white markings to sternum, tegmina, and scutellum.

**TRICENTRUS PROJECTUS.** (Vol. IV, p. 55, fig. 48.)

Add: *Hab.* Burma; Moulmein (*Ind. Mus.*).

**3366. *Tricentrus bifurcus*, sp. n.**

Head and pronotum fuscous brown; legs testaceous, bases of the femora black; tegmina pale bronzy, reflecting the dark abdomen beneath, basal area dark, or fuscous brown; pronotum thickly punctate, centrally longitudinally, percurrently carinate,



Fig. 121.—*Tricentrus bifurcus*.

the lateral angles obliquely erect, their apices subacute and distinctly recurved, posterior pronotal process short, robust, not reaching the posterior angle of the inner tegminal margin.

Length  $5\frac{1}{2}$ ; breadth lat. pronot. process. 3 millim.

*Hab.* Darjiling.

Allied to *T. projectus*, Dist., but differing by the recurved pronotal lateral angles, and the shorter posterior pronotal process.

**TRICENTRUS SUBANGULATUS.** (Vol. IV, p. 55.)

Add: *Hab.* South India; Chikkaballapura (*T. V. Campbell*). Bengal; Rajmahal. United Provinces; Bolund (*Pusa Coll.*). Goalbathan (*Annandale, Ind. Mus.*). Burma; Moulmein.

A number of specimens collected by Dr. Campbell, and others from the Pusa collection, afford me the opportunity of revising

the description of my species based on the unique type from the Nilgiri Hills, which was, I now see, discoloured so far as the legs are concerned. Legs not black, but femora black, extreme apices and the tibiæ and tarsi castaneous or dark ochraceous, apices of the tarsi black; in some specimens the head and pronotum are bronzy-brown, in others black, as described in type.

Length  $4\frac{1}{2}$  to 6; breadth lat. pronot. process. 3 to  $3\frac{1}{2}$  millim.

*TRICENTRUS ALBOMACULATUS.* (Vol. IV, p. 56.)

Add: *Hab.* S. India; Marikuppam (*Ind. Mus.*).

3367. *Tricentrus allabens*, sp. n.

Head and pronotum black; face somewhat thickly ochraceously pilose, posterior pronotal process with the upper surface of the apical area dull castaneous; legs ochraceous, the trochanters black; lateral areas of the sternum whitely tomentose; tegmina subhyaline, wrinkled, reflecting the dark abdomen beneath, the venation fuscous, the basal area black, immediately followed by



Fig. 122.—*Tricentrus allabens*.

a white transverse fascia; pronotum thickly, rather coarsely punctate, the lateral angles slender, recurved, their apices acute, centrally, longitudinally, percurrently carinate, posterior process tricarinate, the apex acute, slightly passing the posterior angle of the inner tegminal margin.

Length 5–6; breadth lat. pronot. process. 3 millim.

*Hab.* E. Himalayas; Kurseong, 4700–5000 ft. (*N. Annandale*).

Allied to *T. subangulatus*, Dist., and *T. albomaculatus*, Dist., but differing from both by the long, slender, recurved pronotal angles.

3368. *Tricentrus pronus*, sp. n.

Head, pronotum, and legs black, the tarsi ochraceous; tegmina dark ochraceous, the basal angular area black, which is sometimes outwardly margined by two obscure pale ochraceous spots; pronotum thickly finely punctate, centrally, percurrently, longitudinally carinate, the lateral angles somewhat wide, compressed, horizontally produced, their apices moderately angularly recurved, posterior pronotal process tricarinate, its apex acute, scarcely

passing the posterior angle of the inner tegminal margin; basal dark area of the tegmina darkly punctate.

Length 4-4½; breadth lat. pronot. process. 3 millim.

*Hab.* Cochin State; Kavalai (*F. H. Gravely*).

Allied to *T. gibbosulus*, Walk., and *T. congestus*, Walk., but differing from both by the narrower and shorter pronotal lateral angles; viewed from the front these are more upwardly turned and acute than in *T. gibbosulus* and much shorter than in *T. congestus*.

**3369. *Tricentrus æneus*, sp. n.**

Bronzy-brown, pronotum and face pilose, apical areas of anterior pronotal processes and the posterior pronotal process distinctly darker; femora black, their apices and the tibiae and tarsi testaceous; tegmina pale bronzy-brown, the basal angular area distinctly darker; pronotum centrally, longitudinally, percurrently carinate, the anterior processes upwardly, obliquely directed, their apices subtruncate or obliquely truncate, the posterior process robust, tricarinate, the apex almost reaching the posterior angle of the inner tegminal margin, the extreme apex subacute; tegmina wrinkled, the basal dark area finely punctate.

Length 5; breadth lat. pronot. process. 3½ millim.

*Hab.* E. Himalayas; Kurseong (*N. Annandale*); Darjiling Distr.; Peshoke, Kallimpong, Ghumti (*H. Gravely*), Pussimbing (*H. H. Mann*). Assam; Margharita. Bengal; British Channaran. Kumaon; Almora (*D. Paiva*). Tenasserim; Myitta (*Doherty*).

A species to be recognized by the obliquely upturned anterior pronotal processes, which are also (outwardly seen) tricarinate, the almost universally bronzy-brown coloration, the moderately short robust posterior process, &c.

**3370. *Tricentrus resectus*, sp. n.**

Pronotum ochraceous, the anterior disk, front, margins of pronotal angles, and apex of posterior process fuscous brown; face piceous, thickly longly pilose; legs brownish testaceous, pilose; tegmina subhyaline, wrinkled, the veins brownish, basal area brownish, containing an ochraceous spot near costal margin; pronotum thickly finely punctate, centrally, longitudinally, percurrently carinate, the anterior lateral angles moderately short, broad and robust, transversely and a little upwardly produced, their apices subacute and very slightly recurved, posterior process robust, tricarinate, the apex acute and very slightly passing the posterior angle of the inner tegminal margin.

Length 6; breadth lat. pronot. process. 3 millim.

*Hab.* Burma; Maymyo (*H. L. Andrewes*).

Allied to *T. selenus*, Buckt., but with much shorter and more oblique lateral pronotal angles.

Genus **CENTRUCHUS**.

*Centruchus*, *Stål*, *Hem. Afr.* iv, p. 93 (1866).

Type, *C. fuscipennis*, Germ., an African species.

*Distribution*. Ethiopian and Oriental Regions.

Pronotum with the disk moderately raised and rounded in front, the lateral angles short but prominent and more or less horizontally directed, the posterior process moderately robust, strongly tricarinate, not remote from scutellum and impinging on tegmina; apex acute and usually passing the posterior angle of the inner tegminal margin.

Closely allied to *Tricentrus*, so much so, that till I saw the African type of *Centruchus* I included two Indian species in the former genus. *Centruchus* cannot be regarded as a very distinct genus.

**CENTRUCHUS CUNEATUS.**

*Tricentrus cuneatus*, *Dist. Faun. Brit. Ind., Rhynch.* vol. iv, p. 56, fig. 49 (1907).

**CENTRUCHUS DECORATUS.**

*Tricentrus decoratus*, *Dist. Faun. Brit. Ind., Rhynch.* vol. iv, p. 58, fig. 50 (1907).

3371. *Centruchus mutilus*, sp. n.

Head and pronotum bluish black; legs blackish, palely pilose, apices of femora testaceous; tegmina pale bronzy, extreme basal angular area blackish; legs purplish red; pronotum thickly coarsely punctate, centrally, longitudinally and percurrently carinate, the lateral angles very short and recurved, their apices



Fig. 123.—*Centruchus mutilus*.

subacute, posterior process robust, strongly tricarinate, its apex subacute and reaching the posterior angle of the inner tegminal margin.

Length 7; breadth lat. pronot. process. 4 millim.

*Hab.* Burma; Maymyo (*H. L. Andrewes*).

In structure allied to *C. decoratus*, *Dist.*

Genus **TRICENTROIDES**, nov.Type, *T. proprius*, Dist.*Distribution.* Assam.

Allied to *Tricentrus*, from which it differs by the more slender and longer posterior pronotal process, the more rounded apical veins to the tegmina and the peculiarly hyaline nature of the same.

3372. *Tricentroides proprius*, sp. n.

Head and pronotum castaneous; face, posterior margin of front, apices and inner margins of lateral pronotal angles and apical area of posterior pronotal process, black; legs pale testaceous; tegmina subhyaline with the venation blackish, narrow basal area black, costal area more or less tinged with blackish; pronotum thickly coarsely punctate, the lateral angles slender,

Fig. 124.—*Tricentroides proprius*.

strongly produced transversely and upwardly, their apices slightly recurved and subacute, posterior pronotal process acute and passing the posterior angle of the inner tegminal margin, its apical area distinctly upwardly recurved; basal dark area of tegmina coarsely punctate.

Length 7; breadth lat. pronot. process.  $4\frac{1}{2}$  millim.

*Hab.* Assam; Cherrapunji, 4400 ft. (*S. W. Kemp, Ind. Mus.*).

Genus **EBHUL**. (Vol. IV, p. 59.)**EBHUL VARIUS**. (Vol. IV, p. 59.)

Add: *Hab.* Upper Burma; Maingmya, 3500 ft. (*T. B. Fletcher*). Borneo; Sarawak (*J. C. Moulton*).

3373. *Ebhul formicarius*, sp. n.

Head and pronotum castaneous brown, the first between eyes and the latter at base and middle of posterior process ochraceous; sternum and legs dark brownish ochraceous, the femora (excluding apices) more or less piceous; abdomen beneath piceous, the segmental margins ochraceous; tegmina brownish, tessellated with greyish, the greyish markings more prominent on apical area; pronotum strongly elevated at base



where the apex is strongly foveate with the margins ridged, the posterior process sinuately waved, arched at base where it is separated from the scutellum, which is slightly longer than broad with its apex slightly recurved; face broadly centrally sulcate, the marginal ridges very prominent.

Length  $5\frac{1}{2}$  millim.



Fig. 125.—*Ebbul formicarius*.

*Hab.* Upper Burma; Maymyo, 3500 ft. (*T. B. Fletcher*).

“Common on garden-plants at Maymyo. Attended by ants.”

A species to be recognized by the very robustly elevated basal area of pronotum with its foveate apex.

#### Genus **GARGARA**. (Vol. IV, p. 60.)

##### 3374. *Gargara contraria*, sp. n.

Head and pronotum pale yellow; body beneath blackish, much greyishly tomentose; apex of the posterior pronotal process black; tegmina subhyaline, extreme basal angle and the veins pale yellow; femora castaneous, their apices and the tibiæ and tarsi pale yellow; pronotum finely granulose, posterior process moderately sinuate at base, its apex acute and reaching the posterior angle of inner tegminal margin, finely centrally carinate; pronotal lateral angles subprominent.

Length 4 millim.

*Hab.* Punjab; Lahore.

Allied to *G. citrea*, Dist. (vol. iv, p. 63), but differing by the much less sinuate margins of the posterior pronotal process, different colour of tegmina, body beneath, and legs.

#### **GARGARA MAJUSCULA**. (Vol. IV, p. 61, fig. 53.)

Add: *Hab.* Bengal Hill Tracts; Rangamati, Chittagong (*R. Hodgart, Ind. Mus.*).

#### **GARGARA CITREA**. (Vol. IV, p. 63.)

Add: *Hab.* Burma; outside Farm Caves nr. Moulmein (*F. H. Gravely*).

## GARGARA SIKHIMENSIS. (Vol. IV, p. 64.)

Add: *Hab.* South India; Nandidrug (*T. V. Campbell*).

3375. *Gargara confusa*, sp. n.

Head and pronotum black, shortly, sparingly, palely pilose; femora black, their apices and the tibiæ pale testaceous, tarsi ochraceous; tegmina greyish opaque, the basal area black, the apical area much clouded with fuscous brown, the apical margin and a spot near the posterior angle of the inner margin being particularly so; pronotum very thickly, somewhat finely, punctate, the lateral angles subacutely prominent, finely centrally percurrently carinate, the posterior process only just reaching the posterior angle of the inner tegminal margin.

Length 4; breadth lat. pronot. angl. 2 millim.

*Hab.* Calcutta.

Allied to *G. sikhimensis*, Dist., but differing by the more slender and unicolorous posterior pronotal process, smaller size, &c.

3376. *Gargara extrema*, sp. n.

Head and pronotum black, finely palely pilose; body beneath black, thickly, finely, palely pilose; legs ochraceous, basal areas of femora black; tegmina subhyaline, base narrowly ochraceous; veins on apical area distinctly blackish, apical margin somewhat broadly black; costal margin narrowly black; pronotum granulate, the lateral angles somewhat distinctly subangularly prominent, the posterior process slightly curved, centrally prominently carinate (this carination distinctly continued throughout pronotum), the apex acute and reaching the posterior angle of the inner tegminal margin; the ochraceous basal area of tegmina punctate.

Length 5; breadth lat. pronot. angl.  $2\frac{1}{2}$  millim.

*Hab.* Ceylon; Peradeniya (*E. E. Green*).

Allied to *G. rivulata*, Dist.

## GARGARA MIXTA. (Vol. IV, p. 65.)

Add: *Hab.* South India; Nandidrug (*T. V. Campbell*); Coimbatore (on Brinjal, *Pusa Coll.*). Behar, Akra, Cochin State; Parambikulam (*P. H. Gravely*).

3377. *Gargara mixta*, var. ? nandidrugana.

Head and pronotum thickly covered with ochraceous pile; pronotum with two central longitudinal black fasciæ between which the colour is pale castaneous, apical area of the pronotal process black; a black spot on each side of front above eyes; body beneath (as seen in carded specimen) blackish, palely pilose;

femora black, their apices and the tibiæ and tarsi pale castaneous; tegmina dark ochraceous, with the exception of the apical margin the whole surface is more or less mottled with black; lateral pronotal angles prominent, but not produced; posterior

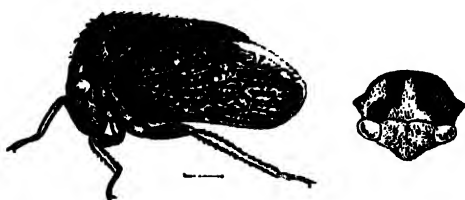


Fig. 126.—*Gargara mixta*, var. ? *nandidrugana*.

pronotal process reaching the posterior angle of the inner tegminal margin, strongly centrally carinate, its apex acute.

Length 5; breadth lat. pronot. angl.  $2\frac{1}{2}$  millim.

*Hab.* South India; Nandidrug (*T. V. Campbell*).

This may prove to be a distinct species?

### 3378. *Gargara splendidula*, sp. n.

Head and pronotum black; body beneath and legs black; tegmina subhyaline, the basal area and a very large central irregular spot black; pronotum (including the posterior process) coarsely punctate, the posterior process very strongly centrally carinate, this carination much more faintly continued on disk of pronotum; the basal black area of the tegmina distinctly punctate.

Length 5; breadth lat. pronot. angl.  $2\frac{1}{2}$  millim.

*Hab.* N. India (*Brit. Mus.*—Purchased at the sale of the specimens belonging to the Entomological Society of London).

### 3379. *Gargara cœlata*, sp. n.

Body black; central carination to pronotum (excluding apex of posterior process) castaneous red; legs black, apices of femora castaneous red; tegmina fuscous brown mottled with greyish, the apical marginal area more distinctly greyish; pronotum thickly finely punctate, centrally percurrently carinate, the posterior pronotal process sinuate at base, moderately amplified at middle, the apex narrowed and subacute, face thickly finely punctate.

Length 6; breadth lat. pronot. angl.  $2\frac{1}{2}$  millim.

*Hab.* Nilgiri Hills (*Sir G. Hampson*).

A large species to be readily recognized by its peculiar and distinct coloration, and in this respect allied to *G. venosa*, Walk., from Tondano.

Genus **POGONTYPUS**. (Vol. IV, p. 67.)**POGONTYPUS COMPLICATUS**. (Vol. IV, p. 67.)Add: *Hab.* Ceylon; Kandy, Yatiyantola (*Green*).3380. **Pogontypus ? dissimilis**, sp. n.

Head and pronotum testaceous, posterior pronotal process stramineous with a medial fascia and the apex fuscous; body beneath testaceous, the legs ochraceous, apices of tarsi black; tegmina dark ochraceous, the apical area paler with two large dark fuscous spots; pronotum granulose, posterior pronotal process slender, sinuate, the apex recurved and reaching the

Fig. 127.—*Pogontypus ? dissimilis*.

posterior angle of the inner tegminal margin; basal and costal marginal area of the tegmina thickly punctate; lateral angles of the pronotum moderately acutely prominent.

Length 4; breadth lat. pronot. angl. 2 millim.

*Hab.* Ceylon (*E. F. Green*).

I have provisionally included this species in *Pogontypus*, from which it differs in the more raised and waved posterior process of the pronotum. My knowledge of the species is, however, confined to a single specimen.

Genus **MACHÆROTYPUS**. (Vol. IV, p. 68.)**MACHÆROTYPUS DISCRETUS**. (Vol. IV, p. 69.)Add: *Hab.* Ceylon; Nuwara Eliya, Peradeniya (*E. F. Green*).3381. **Machærotypus pallescens**, sp. n.

Body and legs ochraceous; head with a transverse fascia between eyes, a spot on each side of pronotum behind eyes, and suffusions to sternum black, the last palely sericeous; tegmina pale ochraceous, subhyaline, the costal area and venation ochraceous, a brownish spot in inner apical cell; apices of tarsi black; pronotum coarsely granulose, its posterior process slender, centrally and laterally carinate, curved at base and remote from

scutellum, apical area deflected and apex recurved, scarcely passing posterior angle of inner tegminal margin; costal area of tegmina thickly coarsely punctate.

Length  $4\frac{1}{2}$  to 5 millim.

*Hab.* Ceylon; Nuwara Eliya (*E. E. Green*).

3382. *Machærotypus nuwarana*, sp. n.

Face and frontal area of pronotum black, very finely pilose, anterior disk and the posterior process ochraceous, apex of the latter black, the lateral pronotal angles black; legs ochraceous, apices of the tibiæ black; tegmina bronzy-yellow, basal angle and a large part of the costal area black; pronotum punctate, centrally, longitudinally, percurrently carinate, the posterior process slender, curved, its apex touching the inner tegminal margin but not quite reaching its posterior angle; basal angle and costal area of tegmina punctate; anterior pronotal angles subprominent and subacute.

Length 5 millim.

*Hab.* Ceylon; Nuwara Eliya (*Brit. Mus.*).

Genus *OCCATOR*, nov.

Type, *O. erectus*, Dist.

*Distribution.* E. Himalayas.

Scutellum complete; pronotum subglobose, lateral angles only obsoletely produced, the posterior process moderately slender, well separated from the scutellum, the apical area strongly upturned, tricarinate, apex not passing the posterior angle of the inner tegminal margin, the central carination percurrent throughout its entire length; tibiæ not dilated; tegmina with the apical cells nearly straight; ocelli much nearer eyes than to each other; front with two tubercles near its posterior margin.

In this enumeration allied to the genera *Machærotypus* and *Demanga* (vol. iv, pp. 68, 69), but distinct by the shorter and peculiarly upturned posterior pronotal process.



Fig. 128.---*Occator erectus*.

3383. *Occator erectus*, sp. n.

Head, pronotum, and scutellum black; femora black, tibiæ ochraceous; tegmina shining ochraceous, darker where the abdomen is reflected above; base and about two-thirds of the costal

margin black; pronotum and basal black area of the tegmina thickly punctate, the front pilose; sternum behind eyes with a distinct tomentosely greyish spot.

Length 5 millim.

*Hab.* E. Himalayas; Kurseong, 4700–5000 ft. (*N. Annandale, Ind. Mus.*).

Genus **COCCOSTERPHUS**. (Vol. IV, p. 70.)

**COCCOSTERPHUS MINUTUS**. (Vol. IV, p. 71.)

Add: *Hab.* N.E. Madras; Lake Chilka (*N. Annandale*).



Fig. 129.—*Coccosterphus minutus*.

Specimens from Madras (one of which is here figured) seem to agree with Stål's description of this Fabrician species.

**3384. *Coccosterphus paludatus*, sp. n.**

Head and pronotum castaneous, finely palely pilose; pronotal front and face thickly greyishly pilose, the former with two large castaneous spots; legs ochraceous, the femora (excluding apices) black; apical area of posterior pronotal process black; tegmina greyish white, the basal area and a transverse fascia beyond middle brownish ochraceous, the dark basal area immediately



Fig. 130.—*Coccosterphus paludatus*.

followed by a transverse greyish-white line, the apical area much mottled with brownish ochraceous; base of pronotum strongly centrally ridged, the ridge finely tuberculate, a broader, convex and less elevated ridge on each side, the pronotal front centrally and transversely ridged, the posterior pronotal process concave at base, the apical area strongly compressed and convex.

Length  $3\frac{1}{2}$ –4; breadth lat. pronot. angl.  $2$ – $2\frac{1}{2}$  millim.

*Hab.* South India; Chikkaballapura (*T. V. Campbell*). Orissa,

near Puri (*N. Annandale*). N.E. Madras; Lake Chilka (*N. Annandale*). Calcutta (*J. Caunter*).

Allied to *C. tuberculatus*, Motsch. (vol. iv, p. 72, fig. 59).

**COCCOSTERPHUS OBSCURUS.** (Vol. IV, p. 73, fig. 60.)

Add: *Hab.* Calcutta (on *Boerhavia repens*—*F. H. Gravely*).

### Genus **INSITOR**, nov.

Type, *I. exemplificatus*, Dist.

*Distribution.* Nilgiri Hills.

Pronotum anteriorly prominently elevated, compressed, its apical surface anteriorly and posteriorly subconvexly amplified, viewed from the front appearing as a prominent spine, the lateral angles obsoletely prominent, posterior process strongly concavely sinuate, its apical area convexly ampliate, not reaching the claval apex; no complete scutellum; tibiæ not dilated; tegmina with the apical areas moderately straight.

The peculiar and distinct structure of the pronotum is the salient character of this genus.

#### 3385. *Insitor exemplificatus*, sp. n.

Pronotum fuscous or piceous brown; legs ochraceous; tegmina dull greyish, irregular blackish spots in clavus, basal area brownish ochraceous, a broad transverse fascia beyond middle, becoming evanescent before inner margin, a spot at posterior angle of the



Fig. 131.—*Insitor exemplificatus*.

inner margin, and some small scattered apical spots, piceous or black; pronotum thickly, strongly punctate, the front moderately pilose; dark basal area to the tegmina thickly punctate; other structural characters as in generic diagnosis.

Length  $3\frac{1}{2}$  to 4 millim.

*Hab.* Nilgiri Hills (*T. P. Campbell*).

### Genus **PARAYASA**, nov.

Type, *P. typica*, Dist.

*Distribution.* South India.

Allied to *Yasa*, Dist. (vol. iv, p. 74), but with four large apical areas to the tegmina; the posterior pronotal process short and

more or less concavely sinuate, not nearly reaching the posterior angle of the inner margin of the tegmina; ocelli about as near to eyes as to each other; posterior tibiae a little curved.

**3386. *Parayasa typica*, sp. n.**

Head and pronotum black, finely palely pilose; body beneath blackish; femora black, their apices and the tibiae and tarsi more or less brownish or piceous; tegmina black, claval and subclaval areas, a central transverse fascia or series of spots, posterior



Fig. 132.—*Parayasa typica*.

costal area and large apical spots, greyish white; pronotum with the lateral angles subprominent, centrally carinate throughout its entire length, the posterior process not nearly reaching the posterior angle of the inner tegminal margin; basal area of tegmina strongly punctate; posterior tibiae a little curved.

Length 4 to 4½; breadth lat. pronot. angl. 1½ to 2 millim.

*Hab.* South India; Kodaikanal (*T. V. Campbell*).

**3387. *Parayasa maculosa*, sp. n.**

Head and pronotum brownish ochraceous, thickly finely pilose; body beneath brownish ochraceous, sternum largely suffused with greyish; femora black, their apices and the tibiae and tarsi pale castaneous; tegmina greyish white, much spotted and suffused



Fig. 133.—*Parayasa maculosa*.

with fuscous brown, especially on basal area which is almost entirely of that colour; pronotum granulose, centrally longitudinally carinate, the posterior process concavely sinuate, not nearly reaching the posterior angle of the inner margin of the tegmina; basal dark area of tegmina thickly punctate; posterior tibiae a little curved.

Length 4; breadth lat. pronot. angl. 2 millim.



*Hab.* South India; Nandidrug and Kodaikanal (*T. V. Campbell*).

In some specimens the greyish white almost makes a maculate transverse fascia near the middle of the tegmina.

**3388. *Parayasa elegantula*, sp. n.**

Head, pronotum, and body beneath brownish ochraceous, very thickly finely pilose; legs brownish ochraceous; tegmina with about basal half brownish ochraceous and crossed near its termination by a pale greyish-virescent transverse fascia, remaining area mostly palely virescent with small brown spots and the veins also of that colour; pronotum centrally distinctly carinate, posterior



Fig. 134.—*Parayasa elegantula*.

process concavely sinuate, its apex black, not nearly reaching the posterior angle of the inner margin of the tegmina; base of tegmina moderately punctate; posterior tibiæ a little curved.

Length 4; breadth lat. pronot. angl. 2 millim.

*Hab.* Nilgiri Hills (*T. V. Campbell*); Ootacamund, Somerdale (*E. E. Green*). South India; Kodaikanal (*T. V. Campbell*).

**3389. *Parayasa affixa*, sp. n.**

Head and pronotum brownish ochraceous, central and lateral areas of front and the face blackish, apex of the posterior pronotal process black; legs ochraceous, apices of the tarsi black; tegmina



Fig. 135.—*Parayasa affixa*.

pale ochraceous, the basal area dark brownish within and black above, the venation ochraceous, beyond the middle the interior of most of the cells is black with the exception of those on the upper apical area; pronotum finely pilose and punctate, centrally

longitudinally, percurrently carinate, the lateral angles sub-prominent, the posterior process concave at its basal area, slightly convexly gibbous at apex, which does not nearly reach the posterior angle of the inner tegminal margin; face and tibiae distinctly pilose.

Length 4; breadth lat. pronot. angl. 2 millim

*Hab.* Nilgiri Hills (*T. V. Campbell*).

**3390. *Parayasa atricapilla*, sp. n.**

Head and pronotum dark brownish ochraceous, finely pilose, the anterior and frontal areas of the pronotum and the face black, the apex of the posterior pronotal process moderately black; legs dark testaceous; tegmina subhyaline, wrinkled and with some opaline lustre, the veins and costal and basal areas brownish ochraceous; pronotum finely punctate and pilose, obscurely centrally percurrently carinate, the lateral angles subacutely prominent, the posterior process only moderately concave, its apical area only very slightly dilated, the apex not nearly reaching the posterior angle of the inner tegminal margin; tegmina with the base punctate, the dark abdomen beneath reflected above: tibiae pilose.

Length  $2\frac{1}{2}$ –3; breadth lat. pronot. angl.  $1\frac{1}{2}$  millim.

*Hab.* Nilgiri Hills (*T. V. Campbell*).

**3391. *Parayasa affinis*, sp. n.**

Allied to *P. atricapilla*, Dist., in the colour and markings of the pronotum, the posterior pronotal process, however, being more concavely sinuate; tegmina (excluding apical area) dark brownish ochraceous, the costal area and a broad transverse central fascia being distinctly darker, apical area pale greyish mottled with brown. A larger and broader species than *P. atricapilla*, the pronotum much more distinctly centrally carinate; the face paler and not black, the pronotal lateral angles a little more broadly subacute; the dark transverse central area to the tegmina contains some short, transverse, linear greyish spots.

Length  $3\frac{1}{2}$ ; breadth lat. pronot. angl.  $2\frac{1}{2}$  millim.

*Hab.* S. India; Nandidrug (*T. V. Campbell*).

**3392. *Parayasa dissimilis*, sp. n.**

Head, pronotum, and body beneath fuscous brown, more or less thickly finely pilose, greyishly pilose on sternum; femora black, their apices and the tibiae and tarsi obscure ochraceous; tegmina pale greyish green, the basal area, a transverse fascia near middle, a large spot at posterior angle of the inner margin and some smaller spots on apical area, fuscous brown, venation more or

less ochraceous; pronotum granulose, the lateral angles distinct but not produced, posterior process short, concavely sinuate, with



Fig. 136.—*Parayasa dissimilis*.

the apex distinctly upcurved above the inner margin of the tegmina; base of tegmina distinctly punctate.

Length 4; breadth lat. pronot. angl. 2 millim.

*Hab.* South India; Kodaikanal (*T. V. Campbell*).

**3393. *Parayasa margherita*, sp. n.**

Head and body beneath black, or blackish brown, pronotum dark castaneous, its apex a little black; femora black, their apices dark ochraceous, tibiae a little paler than femora; tegmina brownish ochraceous with some pale virescent suffusions, the base and an indistinct oblique fascia beyond middle dark castaneous; pronotum finely granulose, distinctly centrally carinate, the lateral angles distinct but not produced, the posterior process



Fig. 137.—*Parayasa margherita*.

robust, very slightly sinuate, but not nearly reaching the posterior angle of the inner tegminal margin.

Length 4; breadth lat. pronot. angl. 2 millim.

*Hab.* Assam; Margherita.

*This species, though I include it in the genus Parayasa, possesses characters which are scarcely congeneric, such as the practically non-sinuate posterior pronotal process, the longer and straighter apical areas to the tegmina, &c., but at present I consider it better to pursue a comprehensive treatment, till further material is available.*

**3394. *Parayasa nilgiriensis*, sp. n.**

Head and pronotum indigo-black, sparingly finely pilose; scutellum with an elongate oblique white tomentose spot near

each basal angle; sternum with the lateral areas more or less greyish tomentose; legs ochraceous, tarsi (excluding base) black; tegmina pale ochraceous, subhyaline, the venation darker, extreme base indigo-black, immediately followed by an obscure whitish transverse fascia, extreme apical margin, especially the inner half, distinctly darker; pronotum thickly, finely punctate, percurrently, centrally, longitudinally finely carinate, the lateral angles subprominent, the posterior pronotal process apically acute, well separated from the posterior angle of the inner tegminal margin.

Length  $4\frac{1}{2}$ – $5\frac{1}{2}$ ; breadth lat. pronot. angl. 2 millim.

*Hab.* Nilgiri Hills (*T. V. Campbell*).

Found on *Indigo splendens*.

**3395. *Parayasa modesta*, sp. n.**

Head and pronotum black; femora black, their apices and the tibiae and tarsi pale testaceous, apices of tarsi black; tegmina dull semihyaline with a slight dull olivaceous tint, the venation (especially on apical area) dull ochraceous, the apical cellular areas distinctly paler, the basal angular area fuscous brown; pronotum thickly finely punctate, the lateral areas subprominent, the posterior process straight, the apex acute, not nearly reaching the posterior angle of the inner tegminal margin.

Length 4; breadth lat. pronot. angl.  $1\frac{1}{2}$  millim.

*Hab.* Nilgiri Hills (*T. V. Campbell*).

**3396. *Parayasa rustica*, sp. n.**

Head and pronotum pale tawny brown, thickly, rather longly palely pilose, apex of posterior pronotal process black; legs dark ochraceous, the trochanters blackish; tegmina dull greyish, much mottled with pale brown, the basal and costal areas and two large



Fig. 138.—*Parayasa rustica*.

subquadrate cellular spots beyond middle being the most prominent darker markings; pronotum thickly punctate as well as pilose, the lateral angles subprominent, depressed on each side near anterior margin, the posterior pronotal process only moderately concavely sinuate, the apical area slender, not dilated, the apex not nearly reaching the posterior angle of the inner tegminal margin; tibiae pilose; tegmina with the basal area distinctly punctate.

Length 4; breadth lat. pronot. angl.  $1\frac{1}{2}$  millim.

*Hab.* Nilgiri Hills; Lovedale (*T. V. Campbell*).

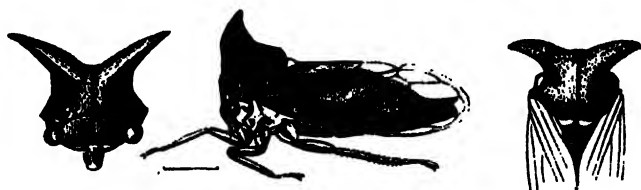
Genus **SARRITOR**, nov.Type, *S. retusus*, Dist.*Distribution.* Burma.

Pronotum apparently without a posterior pronotal process\*; pronotum elongate, truncate before scutellum, concave laterally, the lateral angles frontally produced, very robust but distinctly recurved, the edges strongly carinate, the apices subacute, the disk distinctly centrally depressed, viewed frontally the produced angles are more oblique; scutellum exposed, not quite so long as broad at base, its apex rounded and centrally distinctly concavely excavate; eyes exposed above at each concave lateral margin of the pronotum; face much shorter than front, the ocelli almost as near to each other as to eyes; tegmina with the apical venation straight.

Apart from the apparently peculiar absence of the posterior pronotal process, on which too much certainty must not be understood, the peculiarly concave lateral margins of the pronotum, thus rendering the eyes visible from above, will render the genus as readily distinct.

3397. *Sarritor retusus*, sp. n.

Pronotum dark ochraceous or pale testaceous; face thickly greyish pilose; legs ochraceous; abdomen beneath dull greyish with the segmental margins darker; scutellum dark ochraceous or pale testaceous, the base with two contiguous white, shortly

Fig. 139.—*Sarritor retusus*.

pilose spots; tegmina subhyaline, strongly wrinkled, reflecting the dark abdomen beneath, the basal area pale ochraceous and thickly punctate; pronotum thickly, finely punctate, centrally, longitudinally, percurrently carinate, behind the eyes slightly subacutely prominent; other structural characters as in generic diagnosis.

Length 5-6; breadth lat. pronot. process. 3 millim.

*Hab.* Lower Burma; outside Farm Caves near Moulmein (*F. H. Gravely*), base of Dawna Hills (*N. Annandale*).

I have seen four specimens of this species.

\* I have seen four specimens received at various times in which no mutilation can be detected. The Ethiopian genus *Coloborrhis* Germ. (Stål) (which I have not seen) is described as having the thorax "processu postico destitutus."

## Family CERCOPIDÆ. (Vol. IV, p. 79.)

## Subfamily MACHÆROTINÆ. (Vol. IV, p. 79.)

Genus **MACHÆROTA**. (Vol. IV, p. 80.)3398. *Machærota assamensis*, sp. n.

Head and pronotum dark testaceous; central area of face and anterior area of pronotum black, the latter centrally divided by the testaceous central carination, lateral areas of face ochraceous with the striations blackish; scutellar process pale testaceous, a lateral longitudinal spot on each side of base and the posterior margin of the basal process pale ochraceous; body beneath black or blackish, the femora black with their apices testaceous, anterior and intermediate tibiæ piceous, posterior tibiæ bright pale ochraceous, their apices piceous; tegmina pale hyaline, three subapical cells, about eight apical marginal cells, the one at apex largest and suffused with brownish, basal areas of extreme costal and inner margins black; posterior scutellar process strongly convexly depressed and reaching the tegminal apices.

Length incl. tegm. 6 millim.

*Hab.* Assam; Margherita (*Brit. Mus.*).

Allied to *M. andamanensis*, Dist.

3399. *Machærota noctua*, sp. n.

Piceous; face piceous or brownish ochraceous, with the central area black; basal area of scutellar process with an elongate spot on each side and the posterior margin ochraceous, posterior



Fig. 140. — *Machærota noctua*.

scutellar process testaceous with a small white spot at base; legs black or piceous, posterior tibiæ pale ochraceous, their bases and apices narrowly black; tegmina hyaline, the veins finely spotted with brownish, about six marginal cells, the three apical ones much the largest, three subapical cells, basal areas of

extreme costal and inner margins black; posterior scutellar process not reaching apex of tegmina and remote from same, not strongly convexly recurved.

Length incl. tegm.  $5\frac{1}{2}$  millim.

*Hab.* Pusa and Rajputtee (*H. Maxwell-Lefroy*); Madras Presidency, Waltair (*Ind. Mus.*).

Allied to *M. andamanensis*, Dist., but differing by the shorter posterior scutellar process, face less uniformly black, scutellum not ferruginous at base, the marginal cells to tegmina more quadrate and uniform in size.

### 3400. *Machærota pandata*, sp. n.

Head, pronotum, and basal area of scutellar process brownish testaceous speckled with black, on the pronotum these speckles are more or less coalesced and forming marginal and three discal obscure fasciæ; face with the central area black, the lateral areas ochraceous with the striations black; basal area of scutellar process with an elongate spot at each basal angle and the posterior margin white, posterior scutellar process testaceous, with black and white spots at its base; legs (imperfectly seen in unique carded specimen) castaneous, a spot at apices of femora and the posterior tibiæ (excluding bases and apices) pale ochraceous; tegmina very pale ochraceous, veins concolorous, reflecting the dark abdomen beneath, and thus giving the appearance of a dark transverse fascia near base; the posterior scutellar process is strongly deflected and about reaches the tegminal apices.

Length incl. tegm. 6 millim.

*Hab.* Nilgiri Hills (*T. V. Campbell*).

Allied to the preceding species, but with the posterior scutellar process much more convexly depressed and reaching the tegminal apices.

### *MACHÆROTA PLANITIA*. (Vol. IV, p. 84.)

Add: *Hab.* Madras Presidency, Waltair (*Ind. Mus.*). N. Bengal; Purneah Distr., Bhogaon (*C. A. Paiva*).

I have recently received a specimen of this species from the Calcutta Museum labelled "*On Zizyphus jujuba*" (*F. H. Gravely*).

*M. planitia* varies in the extent of the convex depression in the posterior scutellar process.

### Genus *CONDITOR*, nov.

Type, *C. collatatus*, Dist.

*Distribution.* Brit. India.

Head about as long as breadth between eyes, roundly foveate on disk; ocelli near front of eyes and nearer to each other than to eyes; face globose, centrally, moderately, longitudinally ridged

and finely transversely striate; pronotum elongate, its greatest breadth about equal to the length of itself and head together, anteriorly reclined, posterior disk distinctly convex, the lateral angles amplified, rounded and somewhat laminate; scutellum about twice as long as broad at base, its disk (excluding base) moderately foveate and centrally carinate, its lateral areas broadly concavely flattened, posterior scutellar process short and slender; tegmina talc-like, subhyaline, the veins very prominent and robust, four apical cells, costal area distinctly but moderately widened at base.

Allied to *Machæropsis* (vol. iv, p. 84).

3401. *Conditor collatatus*, sp. n.

Head, pronotum, and scutellum castaneous brown, abdomen black, sternum and legs brownish ochraceous; tegmina talc-like, semi-hyaline, basal half with small black spots, apical area much



Fig. 141.—*Conditor collatatus*.

suffused with brownish ochraceous; wings pale hyaline, the venation faintly black; pronotum thickly, faintly, finely punctate; other structural characters as in generic diagnosis.

Length excl. tegm. 6; exp. tegm. 17 millim.

*Hab.* Cochin State; Parambikulam (*F. H. Gravely, Ind. Mus.*).

Subfamily APHROPHORINÆ. (Vol. IV, p. 85.)

Genus **POOPHILUS**. (Vol. IV, p. 86.)

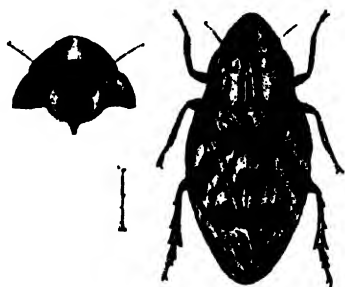
**POOPHILUS COSTALIS**. (Vol. IV, p. 86.)

Add: *Hab.* Bengal; Chanmahani (on Paddy—*T. Bainbrigge Fletcher*). Assam; Bhutan Frontier, Mangaldai Distr. (*S. W Kemp*). United Provinces; Allahabad (*B. Lord*). Nepal Terai; Bijaura (*Ind. Mus.*).



Genus **PTYELUS**. (Vol. IV, p. 87.)3402. *Ptyelus hambantotensis*, sp. n.

Head and pronotum greyish ochraceous; vertex with two central longitudinal fasciæ, pronotum with three central and two sublateral fasciæ (the latter more or less broken), scutellum with three longitudinal spots (one apical and two basal), black; face dull blackish, anterior area more or less ochraceous, with two prominent shining black spots on anterior margin; tegmina pale ochraceous, a large basal costal marginal spot, a transverse spot

Fig. 142.—*Ptyelus hambantotensis*.

on each side of apex of scutellum, two oblique fasciæ on each side of disk, a transverse fascia near claval apex, and some linear spots on apical area, black; body beneath black with ochraceous suffusions; legs blackish; vertex finely pilose with a central longitudinal incision; pronotum and scutellum finely pilose; posterior tibiæ with two spines.

Length 7 millim.

*Hab.* Ceylon; Hambantota (*T. Bainbrigge Fletcher*).

**PTYELUS NEBULOSUS**. (Vol. IV, p. 88.)

Add: *Hab.* South India; Chikkaballapura (*T. V. Campbell*). Nilgiri Hills (*H. L. Andrews*). Coimbatore (on *Calotropis*—*T. V. Rama*).

**PTYELUS HIRSUTUS**. (Vol. IV, p. 89.)

Add: *Hab.* Bengal; Triveni, Hooghly Distr (*Ind. Mus.*). Calcutta (*N. Annandale*).

**PTYELUS SEXVITTATUS**. (Vol. IV, p. 91.)

Add: *Hab.* Bengal; Pusa (*K. S. P.*—on Paddy), Chapra (*Mackenzie*).

**3403. *Ptyelus jayakari*, sp. n.**

Pale brownish ochraceous; central anterior margin of vertex ochraceous with some small black spots; scutellum with a distinct black spot at each basal angle and a small piceous spot on each side before apex, tegmina thickly mottled with short transverse linear pale castaneous markings; body beneath and legs pale brownish ochraceous; face with a broad central longitudinal fascia, a basal spot between face and eyes, its apical area (more or less) and disk of clypeus and sternum piceous, face with the basal margin narrowly ochraceous, the transverse striations pale castaneous; rostrum with its apex black and reaching the intermediate coxæ; legs either shaded or longitudinally striped with brownish; vertex considerably shorter than pronotum, narrowed and rounded in front of eyes, and broadly and irregularly longitudinally furrowed; pronotum more or less strongly longitudinally furrowed on its anterior area; apices of the tarsi piceous or black.

Length  $8\frac{1}{2}$  to  $9\frac{1}{2}$  millim.

*Hab.* Bandra (*Jayakar, Brit. Mus.*). Bombay (*Dixon*). South India; Chikkaballapura (*T. V. Campbell*). Ceylon; Madulsima (*T. Bainbrigge Fletcher*).

**3404. *Ptyelus cinereus*, sp. n.**

Head, pronotum, and scutellum ochraceous; face and cheeks ochraceous, the first with the posterior area and the clypeus piceous; body beneath piceous, the abdominal segmental margins narrowly ochraceous; legs ochraceous, apices of the posterior tibiae piceous; tegmina ochraceous, a linear fascia in clavus, a basal subcostal fascia terminating at about one-third from base where it is downwardly recurved, a transverse macular fascia a little beyond middle, and some apical suffusions dark castaneous; vertex transversely incised before apex, the ocelli about equally removed from each other as from eyes; face globose, finely transversely striate; pronotum with the disk finely, centrally, longitudinally incised, the whole surface very finely wrinkled; posterior tibiae with two slender spines.

Length 7 millim.

*Hab.* Bengal; Pusa (*K. S. P.*), Skripur (*H. Maxwell-Lefroy*).

Genus **CLOVIA**. (Vol. IV, p. 93.)

**CLOVIA CONIFER**. (Vol. IV, p. 93.)

Add: *Hab.* Lebong; Phoobsering (*H. Maxwell-Lefroy*). Assam; Mangaldui Distr. (*Kemp*). Cochin State; Trichur (*F. H. Gravely*). E. Himalayas; Sukna (*N. Annandale*). Upper Burma; Hopin (*T. Bainbrigge Fletcher*).

**CLOVIA PUNCTA.** (Vol. IV, p. 94.)

Add: *Hab.* South India; Chikkaballapura, Nilgiri Hills and Mysore State (*T. V. Campbell*). Bengal; Chapra (*Mackenzie, Pusa Coll.*), Skripur, Saran (*Ind. Mus.*).

**3405. Clovia burmanica, sp. n.**

Vertex of head, pronotum, and scutellum pale brownish ochraceous with numerous longitudinal darker linear fasciæ; body beneath and legs more or less brownish ochraceous; tegmina dark brownish ochraceous, two large white spots on costal margin, the first near middle, the second near commencement of apical area, above the first spot is an inner curved white fascia reaching base, beyond middle obscure linear white markings; pronotum distinctly longitudinally impressed on its anterior half and less distinctly longitudinally ridged; face dark brownish, on each lateral area transversely striate; posterior tibiæ with two spines.

Length 8 millim.

*Hab.* Upper Burma; Maymyo, 3500 ft. (*T. Bainbrigge Fletcher*).

Allied to *C. andamanensis*, Dist.

**3406. Clovia mundula, sp. n.**

Vertex of head ochraceous, with two central longitudinal black lines; pronotum black, with three central longitudinal ochraceous lines; scutellum ochraceous, with two basal quadrate black spots; face greyish white, the anterior and lateral margins and two central spots black; sternum greyish white with black coxal spots; body beneath and legs pale brownish; tegmina black, a large costal spot near middle, two more linear spots near apical area, and a number of smaller and ill-defined spots on apical and subapical areas greyish white; vertex of head about as broad as long, obtusely angularly produced; apex of scutellum acute; face smooth, distinctly transversely carinate where the black spots occur.

Length 7 millim.

*Hab.* Ceylon; Nuwara Eliya (*Brit. Mus.*).

**Genus LEPYRONIA.** (Vol. IV, p. 97.)**3407. Lepyronia dædalia, sp. n.**

Head, pronotum, and scutellum black, narrow anterior margin of vertex, narrow posterior margin of pronotum and two discal spots to same, and apex of scutellum, ochraceous; face, clypeus, and cheeks pale ochraceous, anterior margin of face, and a spot on each cheek near clypeus, black; sternum and legs ochraceous; abdomen, a large spot behind each anterior coxa, lateral marginal

areas of sternum, and apices of tarsal joints, black; tegmina black, two oblique macular fasciæ (before and near middle), a transverse macular fasciate spot behind clavus, lateral marginal spots, and smaller linear apical marginal spots, pale ochraceous:

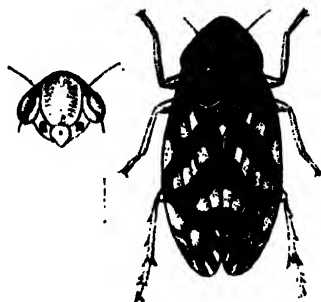


Fig. 143.—*Lepyronia dadalia*.

head and pronotum thickly finely punctate, the head depressed before eyes and foveate at apex, shorter than broad, ocelli nearer to each other than to eyes; pronotum discally longitudinally finely sulcate; tegmina thickly finely punctate, posterior tibiae with two spines.

Length 6 millim.

*Hab.* South India; Kodaikanal (*T. V. Campbell*).

#### Genus **APHROPHORA**. (Vol. IV, p. 99.)

**APHROPHORA DISTANTI** to replace *A. bisignata*, Dist. (Vol. IV, p. 100), nom. præocc.

*Cercopis distantis*, *Lallem. Gen. Insect. Fasc. 143, Hom. p. 60* (1912).

An unlocalised specimen has been described by Walker under this name (*Ins. Saund., Hom. p. 93, 1858*), and therefore Dr. Lallemant has rightly renamed my species.

#### **APHROPHORA BURMANICA**. (Vol. IV, p. 100.)

Add: *Hab.* E. Himalayas; Kurseong (*N. Annandale*).

A single specimen secured by Dr. Annandale at Kurseong is of a varietal character, having a pale spot with black anterior and posterior margins on costal area of tegmina just before apical area.

#### **APHROPHORA NANCYÆ**. (Vol. IV, p. 101.)

Add: *Hab.* Dehra Dun Distr., Jaunsa Division, Mundali, E. Himalayas, near Darjiling (*R. B. Horsfall*).

**APHROPHORA SIGILLIFERA.** (Vol. IV, p. 103.)

Add: *Hab.* Darjiling. Ceylon; Nuwara Eliya (*Brit. Mus.*).

**3408. *Aphrophora nuwarana*, sp. n.**

Vertex of head and pronotum castaneous brown, central carination to first ochraceous, pronotum with a central discal white fascia posteriorly bifurcating as two connected spots, the anterior area a little paler with some black linear markings, scutellum testaceous with its apex pale ochraceous; face ochraceous, the striations darker with a black transverse fascia beyond middle; legs ochraceous, annulated with dark testaceous; tegmina purplish brown, the costal area more or less broadly ochraceous; vertex of head finely punctate, a more or less distinct carination near each eye, between which and the central carination the surface is distinctly foveate; pronotum coarsely punctate, the posterior margin concavely emarginate; scutellum compresse base where it is punctate, the apex practically impunctate; tegmina thickly coarsely punctate; posterior tibiae with a strong spine beyond middle.

*Var.* Face without the transverse black fascia; apex of scutellum black, not ochraceous; tegmina ochraceous.

Length 8 millim.

*Hab.* Ceylon; Nuwara Eliya (*Brit. Mus.*).

**3409. *Aphrophora trifasciata*, sp. n.**

Vertex of head black with ochraceous suffusions; pronotum ochraceous, with three longitudinal black fasciae, the central fascia narrow and situate on the carination; scutellum black, its apex ochraceous; face with its upper half black, the lower half

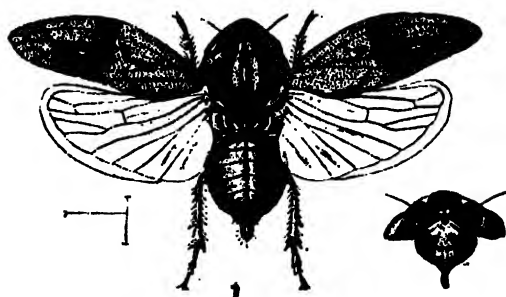


Fig. 144.—*Aphrophora trifasciata*.

ochraceous; body beneath and legs ochraceous, the latter annulated with castaneous; tegmina ochraceous, beyond middle to apex much suffused with fuscous, some similar coloration on inner claval margin and a series of minute spots on costal margin;

vertex of head finely punctate, pronotum coarsely punctate; face considerably longer than broad, the lateral areas strongly striate on upper half, less prominently so on lower half; clypeus ochraceous, spotted with fuscous brown; abdomen above centrally, longitudinally incised; head and pronotum centrally, longitudinally carinate.

Length excl. tegm. 5; exp. tegm. 14 millim.

Hab. Lebong; Phoobsering (*H. Maxwell-Lefroy*).

### Genus **ABDAS**, nov.

Type, *A. nuncupatus*, Dist.

Distribution. S. India; Ceylon.

Vertex of head shorter than breadth between eyes, subconically narrowed from eyes to apex, which is obtusely angulate, obliquely depressed on each lateral area; ocelli near the eyes; pronotum subequal in length to that of vertex, both finely, centrally carinate; face moderately globose, about as broad as long, centrally longitudinally carinate, distinctly transversely striate; clypeus about reaching apex of anterior coxæ; scutellum very small, triangular, about as long as broad at base; rostrum slightly passing the anterior coxæ; pronotum with the anterior margin moderately convex, the lateral margins narrowly outwardly oblique to lateral angle and then broadly inwardly oblique to base of scutellum; posterior tibiæ with two prominent spines; tegmina about two-and-a-half times as long as broad, apical areas indistinct.

In this enumeration allied to *Aphrophora*, from which it differs in the longer head, small scutellum, broad face, &c.

#### 3410. *Abdas nuncupatus*, sp. n.

Vertex of head, pronotum, scutellum, and tegmina pale shining ochraceous, thickly finely punctate; eyes and a more or less distinct

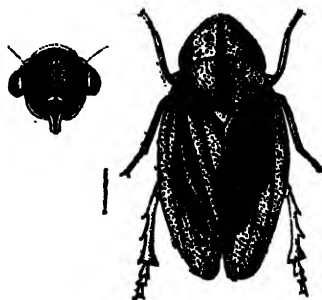


Fig. 145.—*Abdas nuncupatus*.

central fascia to head and pronotum black; face black, the anterior margin and two small spots at base of clypeus ochraceous;

sternum and abdomen beneath black; femora black, their bases and apices, tibiæ and tarsi, coxæ and trochanters ochraceous, apices of tibiæ black; face coarsely, closely striate, shortly hirsute; other structural characters as in generic diagnosis.

Long.  $5\frac{1}{2}$ –6 millim.

*Hab.* S. India; Kodaikanal (*T. V. Campbell*). Nilgiri Hills; Ootacamund, Somerdale (*E. E. Green*).

Genus **JEMBRANA**. (Vol. IV, p. 104.)

**JEMBRANA ORNATA**. (Vol. IV, p. 105.)

*Var.* The coloration considerably darker than in the type.

Add: *Hab.* S. India; Kodaikanal (*T. V. Campbell*).

3411. **Jembrana costalis**, sp. n.

Brownish ochraceous; tegmina with the costal area beyond base more or less broadly pale dull ochraceous, the extreme costal margin from base to about middle narrowly pale ochraceous spotted with black, near centre of tegmen an oblique, broken, greyish line, sometimes very indistinct; face ochraceous, the striations darker, the anterior area generally much darker; scutellum black or blackish, sometimes its apex and margins paler; legs with pale annulations; rostrum passing the posterior coxæ; vertex of head somewhat centrally broadly ridged and finely centrally carinate, punctate and transversely wrinkled; pronotum coarsely punctate, tricarinate, the lateral carinations somewhat obscure, anteriorly bifoveate; scutellum discally depressed, punctate and transversely wrinkled; tegmina thickly punctate.

Length  $7\frac{1}{2}$ –8 millim.

*Hab.* Ceylon; Madulsima (*T. Bainbrigge Fletcher*). Malabar; Taliparamba. E. Himalayas; Kurseong (*C. A. Paiva*). Darjiling (*F. H. Gravely*). Travancore; Kulattupuzha and Trivandrum (*N. Annandale*). Nepal Terai; Dhakna Bagh (*Ind. Mus.*). Lower Burma; Moulmein (*F. H. Gravely*).

3412. **Jembrana bipartita**, sp. n.

Allied to the preceding species, *J. costalis*, but principally differing in the tegmina, where the posterior half immediately behind the oblique broken greyish line is altogether darker and blacker in coloration and is here much more coarsely punctate than in *J. costalis*; other characters very similar.

Length 8 millim.

*Hab.* Bengal; Siliguri.

3413. *Jembrana* † *obesa*, sp. n.

Head, pronotum, and body beneath brownish ochraceous more or less shaded with purplish brown; face purplish brown, with a central pale ochraceous spot of varying size and length, a similar spot on each cheek at anterior margin; femora castaneous brown, their apices and annulations ochraceous, anterior and intermediate tibiæ ochraceous, annulated with castaneous, posterior tibiæ ochraceous with their apices castaneous; tegmina fuscous brown, the

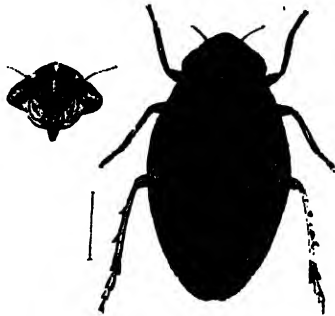


Fig. 146.—*Jembrana* † *obesa*.

costal area paler but irregularly marked with dark spots; head and pronotum punctate, the latter more coarsely so, both centrally longitudinally carinate, the pronotum with two roundly oblique carinations defining submarginal foveations; tegmina coarsely punctate; rostrum long, passing the posterior coxæ; posterior tibiæ with two spines.

Length 8–11 millim.

*Hab.* Lebong; Phoobsering, 500 ft. (*H. Maxwell-Lefroy*). E. Himalayas; Kurseong (*E. A. D'Abreu*); near Darjiling (*R. B. Horsfall*).

I have included this species in the genus *Jembrana*, from which it primarily differs by the bispinose posterior tibiæ.

Genus **PHILAGRA**. (Vol. IV, p. 107.)

3414. *Philagra* *costalis*, sp. n.

Head, pronotum, and scutellum piceous; basal lateral margins of vertex in front of eyes, a narrow central longitudinal line and the lateral margins to pronotum, and a central longitudinal line and apex to scutellum, ochraceous; abdomen above ochraceous, the base and segmental margins piceous; body beneath and legs ochraceous, base and lateral margins of face, disk of sternum, and disk of abdomen beneath piceous or black; vertex of head longer than pronotum, acuminate produced, its apex a little recurved, centrally strongly longitudinally carinate, its lateral margins less



prominently carinate, face with the lateral margins obliquely striate; pronotum very finely wrinkled, its base strongly sinuate before scutellum; posterior tibiæ with two spines; tegmina

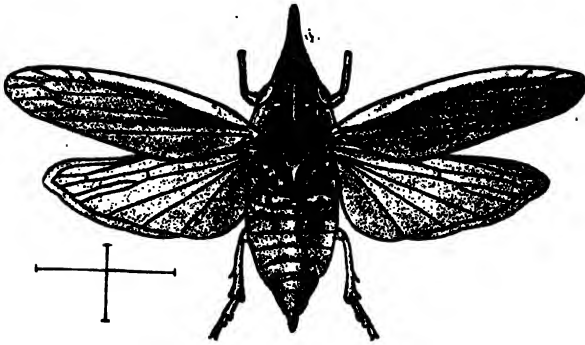


Fig. 147.—*Philagra costalis*.

piceous brown, the costal margin broadly pale ochraceous; wings pale fuliginous, the veins black.

Length excl. tegm.  $9\frac{1}{2}$ –10; exp. tegm. 18 millim.

*Hab.* Ganges Valley (*Mackinnon*).

#### Genus **VERVACTOR**, nov.

Type, *V. typicalis*, Dist.

*Distribution.* Ceylon.

Vertex of head as long as breadth between eyes, which are longer than broad, subtriangular, lateral margins oblique, apex subacute, centrally carinate and obliquely deflected on each side; ocelli much nearer eyes than to each other; face longer than broad, globose, transversely carinate, shortly obliquely narrowed before clypeus, which is short and globose; pronotum sexangular, centrally carinate, about twice as broad as long, anterior margin convex, anterior lateral margins straight, posterior lateral margins oblique, a little concave, posterior margin angularly excavate before scutellum, which is broader than long; tegmina with the costal margins convex, narrowing to apex, six small apical marginal cells; posterior tibiæ with a single strong spine beyond middle; whole upper surface more or less densely coarsely punctate.

#### 3415. *Vervactor typicalis*, sp. n.

Head, pronotum, and scutellum dark, shining brownish ochraceous, thickly and coarsely punctate; vertex with a central anterior fascia and a marginal spot on each side in front of eyes, pale ochraceous; face castaneous, with a darker spot before clypeus,

and a central ochraceous suffusion or fascia; pronotum with a transverse series of pale spots; legs ochraceous; tegmina brownish ochraceous, more or less thickly coarsely punctate, most of the

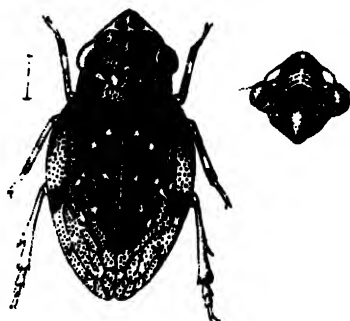


Fig. 148.—*Vervactor typicalis*.

veins suffused with black and ornamented with small white spots, a prominent black macular suffusion near middle of costal area; other structural characters as in generic diagnosis.

Length incl. tegm. 6 millim.

*Hab.* Ceylon; Ohiya (*O. S. Wickwar*).

### Genus **HINDOLA**.

- . *Carystus*, *Stål, Berl. Ent. Zeitschr.* vi, p. 303 (1862); *Stål, Hem. Afr.* iv, p. 81 (1866), nom. preocc.

*Hindola*, *Kirk. Entomologist*, xxxiii, p. 243 (1900), nom. nov.

Type, *H. viridicans*, Stål, from Java, Singapore, and Tenasserim.

*Distribution.* South Africa, Australia, Malaysia, and India.

Vertex of head narrow, much shorter than broad, subangularly produced in front of eyes, its base more angularly sinuate, near apex transversely impressed; face moderately globose, longer than broad, well separated from eyes; rostrum short; pronotum about three times longer than vertex of head, its anterior margin strongly subangularly produced, lateral margins obliquely straight to base of tegmina then obliquely and somewhat sinuately continued to base of scutellum, its base strongly concavely sinuate; scutellum much longer than broad; tegmina about or almost three times longer than broad, apex rounded; posterior tibiae with two spines.

### 3416. *Hindola lucida*, sp. n.

Head, pronotum, scutellum, body beneath and legs pale ochraceous, apical area of scutellum greyish white; tegmina subhyaline, wrinkled, base, claval area, and broad apical margin bronzy-

brown; pronotum finely wrinkled; scutellum transversely impressed at commencement of the pale apical area; basal and claval dark areas of the tegmina strongly and coarsely punctate;

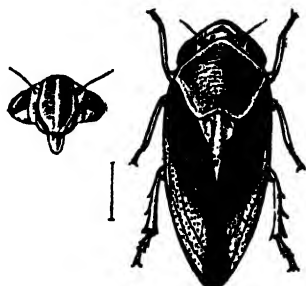


Fig. 149.—*Hindoia lucida*.

face centrally longitudinally levigate, on each lateral area transversely striate, the striations not reaching the lateral margins.

Length incl. tegm. 6–8 millim.

*Hab.* Cochin State; Parambikulam (*F. H. Gravely*).

Allied to the Malayan *H. viridicans*, Stål, but distinguished by the different markings and colour of the tegmina, larger size, &c.

### Genus HINDOLOIDES.

*Hindoloides*, *Dist. A. M. N. H.* (8) xv, p. 506 (1915).

Type, *H. indicans*, *Dist.*

*Distribution.* Calcutta.

Vertex of head much broader than long, the anterior margin angularly subrotundate, the posterior margin more angulately subconcave, about twice as broad as long, ocelli near base and on the lateral margins of the central lobe; face globose, projecting, longer than broad, clypeus short and broad; pronotum convex, considerably broader than long, the anterior margin convex, the posterior margin profoundly concavely sinuate, the lateral margins moderately oblique, slightly concave near base; scutellum considerably longer than broad, the apex acute, the lateral margins straightly oblique; tegmina more than twice as long as broad, about basal two-thirds coriaceous and coarsely punctate; apical area subhyaline, the apices broadly rounded, subapical cells three, the innermost small; posterior tibiae with two strong spines, posterior tarsi robust, the basal joint longest.

Allied to the preceding genus *Hindola*, but separated by the totally different structure of the face and the shorter and apically broader tegmina.

3417. *Hindoloides indicans*, *Dist. A. M. N. II.* (8) xv, p. 507 (1915).

Head, pronotum, scutellum, body beneath and legs ochraceous; tegmina with nearly basal two-thirds ochraceous, remainder dull subhyaline; eyes black, with two large black spots on face

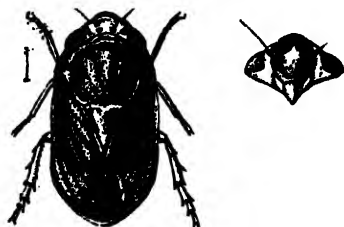


Fig. 150. -*Hindoloides indicans*.

between them, meso- and metasterna sometimes spotted with black, but this is not a constant character; structural characters as in generic diagnosis.

Length incl. tegm.  $3\frac{1}{2}$ –4 millim.

*Hab.* Calcutta—on *Zizyphus jujuba*.

Genus **QUINQUATRUS**, nov.

Type, *Q. dohertyi*, *Dist.*

*Distribution.* Tenasserim.

Vertex of head considerably more than twice as broad as long, including eyes about as wide as anterior margin of pronotum, ocelli at about middle and near base, very much nearer to each other than to eyes; face longer than broad, moderately globose, cheeks broad, clypeus short and broad; pronotum about twice as broad as centrally long, convex, the anterior margin somewhat angularly convex, the lateral margins oblique, a little concave anteriorly, the posterior margin profoundly sinuate; scutellum considerably longer than broad, apically acute; tegmina much longer than the abdomen and considerably passing its apex; posterior tibiae robust and armed with two strong spines, basal joint of posterior tarsi much longer than second or third; tegmina with three apical cells.

3418. *Quinquatrus dohertyi*, sp. n.

Vertex of head testaceous; pronotum and scutellum greenish ochraceous, the anterior margin of pronotum dark ochraceous, the lateral and posterior margins paler; scutellum paler, centrally darker; tegmina subhyaline, reflecting the dark abdomen beneath,

where it appears to be greenish ochraceous; body beneath and legs ochraceous; vertex of head rugulose; pronotum thickly,

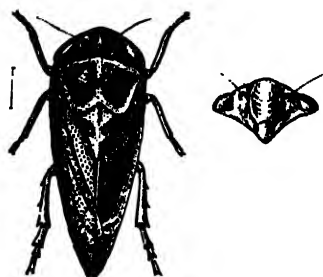


Fig. 151.—*Quinquatrus dohertyi*.

finely punctate, other structural characters as in generic diagnosis.

Length incl. tegm. 5 millim.

*Hab.* Tenasserim Valley; Myitta (*Doherty*).

#### Genus **XENAIAS**, nov.

Type, *X. notandus*, Dist.

*Distribution.* Nilgiri Hills.

Vertex much shorter than broad, angularly produced anteriorly, strongly concave posteriorly, ocelli a little more removed from eyes than from each other; pronotum broader than long, anterior margin angularly convex, posterior margin narrower than anterior and strongly concavely sinuate, the lateral margins a little oblique to base of tegmina and then sinuate to apex; scutellum considerably longer than broad, subtriangular, its apex acute; face longer than broad, moderately convex, well separated from eyes; clypeus more than half the length of face; tegmina long, somewhat narrow, rather more than three times as long as broad; posterior tibiae with one spine.

#### 3419. **Xenaias notandus**, sp. n.

Head, pronotum, and scutellum ochraceous, pronotum (excluding anterior margin) considerably darker in hue; body beneath ochraceous, the face and cheeks more testaceous, the lateral margins of the face piceous; legs ochraceous, the tarsi distinctly darker; abdomen above ochraceous, a broad longitudinal black fascia extending from near apex of scutellum to abdominal apex; head and pronotum thickly punctate, the pronotum

(excluding anterior margin) more coarsely so; tegmina very

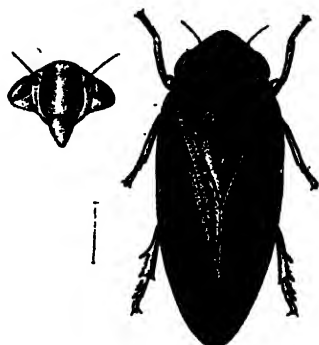


Fig. 152.--*Xenucias notandus*.

thickly punctate; other structural characters as in generic diagnosis.

Long. 7-8 millim.

*Hab.* Nilgiri Hills (*T. V. Campbell*).

Subfamily CERCOPINÆ. (Vol. IV, p. 109.)

Genus **CALLITETTIX**. (Vol. IV, p. 111.)

**CALLITETTIX CONTIGUA**. (Vol. IV, p. 112.)

Add: *Hab.* Brit. India; United Provinces, Shazadpur (Buohoo). W. Himalayas; Kousanie (*Tytler*). Kumaon; Almora (*C. Paiva*).

Genus **ABIDAMA**. (Vol. IV, p. 114.)

**ABIDAMA PRODUCTA**. (Vol. IV, p. 114.)

Add: *Hab.* Upper Burma; Myitkyina (*T. Bainbridge Fletcher*). Lower Burma; Pegu Yomas, Thayetmyo Distr. (*C. J. Rogers*).

**ABIDAMA RUFULA**. (Vol. IV, p. 114.)

Add: *Hab.* East Bengal; Goalbathan (*R. Hodgart*). Assam; Mazbat, Mangaldai Distr. (*S. W. Kemp*).

3420. **Abidama scutellata**, sp. n.

♂. Vertex of head and pronotum black; scutellum, body beneath, legs, and tegmina sanguineous; vertex of head somewhat longly and subacutely produced in front of eyes; ocelli flavous, a little nearer to each other than to eyes; pronotum obscurely thickly finely punctate and transversely wrinkled; scutellum a

little roundly impressed near each basal angle; face centrally longitudinally ridged; posterior tibiæ with an acute spine.

Length incl. tegm.  $6\frac{1}{2}$  millim.

*Hab.* Assam; Mangaldai Distr.

### Genus **PAPHNUTIUS**, nov.

Type, *P. ostentus*, Dist.

*Distribution.* North India.

Vertex of head about as long as broad, rounded anteriorly, strongly centrally carinate, ocelli slightly nearer to each other than to eyes; face moderately globose, longer than broad; pronotum about twice as broad as long, the anterior margin nearly straight, the lateral margins slightly roundly oblique to tegminal basal angle and then sharply oblique to basal angle of scutellum, the disk moderately convex, posterior margin concave; scutellum about as long as broad at base, centrally strongly foveate, posterior tibiæ with two spines.

Allied to *Caloscarta*, Bredd., and differing principally in the centrally carinate vertex of the head.

#### 3421. *Paphnutius ostentus*, sp. n.

Black, vertex of head, face, and metasternum sanguineous; vertex with a black spot before each eye; pronotum finely thickly



Fig. 153.—*Paphnutius ostentus*.

wrinkled, moderately foveate near each lateral margin; scutellum roundly centrally foveate; tegmina very thickly finely punctate; other structural characters as in generic diagnosis.

Length incl. tegm.  $4\frac{1}{2}$  to  $5$  millim.

*Hab.* Darjiling (*R. B. Horsfall and Lord Carmichael's Coll.*).

### Genus **CALOSCARTA**. (Vol. IV, p. 115.)

#### 3422. *Caloscarta pallescens*, sp. n.

Head, pronotum, and scutellum testaceous; a discal spot to

apex of vertex of head (sometimes absent), a spot near each anterior angle of pronotum, and basal area of scutellum black, or blackish; body beneath and legs sanguineous, abdomen beneath blackish, a fascia crossing face between eyes and the disk of mesonotum black; tegmina pale dull ochraceous, extreme base, base of costal margin and the inner claval margin pale sanguineous; head distinctly impressed before eyes; pronotum thickly finely punctate and transversely wrinkled, in the typical specimen distinctly centrally longitudinally impressed on the anterior area (but this is not a constant character); face longer than broad, distinctly laterally transversely striate and longitudinally centrally carinate to a little beyond middle.

Length incl. tegm. 6 to 7 millim.

*Hab.* Ceylon; Diyatalawa, 4000 feet, Peradeniya (*T. Bainbrigge Fletcher*).

### Genus **CONSIDIA**.

*Considia*, *Stål*, *Öfr. Vet.-Akad. Förh.* 1865, p. 152; *Schmidt*, *Stett. Ent. Zeit.* 71, p. 324 (1910); *Lallem. Gen. Insect.* Fasc. 143, p. 82 (1912).

*Tettigoscarta*, *Bredd. Soc. Ent. Zurich*, xvii, p. 59 (1902).

Type, *C. transversa*, Walk.

*Distribution* Burma; Malayan Region.

Head broader than long, rounded in front, the anterior marginal area flattened, ocelli about as wide apart as from eyes; face globose, almost as broad as long; pronotum about as broad as length of pronotum and head together, anterior margin nearly straight, lateral margins slightly roundly oblique to basal tegminal angle and then a little concavely oblique to basal angles of scutellum, convex, somewhat depressed and flattened at lateral margins, centrally, longitudinally moderately carinate; scutellum about as long as broad, centrally, discally, roundly foveate; posterior tibiae with a strong spine beyond middle; tegmina elongate, about three times as long as broad.

3423. *Considia nitidula*, *Bredd. Soc. Ent. Zurich*, 1902, p. 59; *Dist. Rec. Ind. Mus.* ii, p. 139 (1908); *id. A. M. N. H.* (8) xiv, p. 333 (1914).

*Considia borealis*, *Schmidt, Arch. f. Naturg.* 76, p. 101 (1910).

Head, pronotum, and scutellum black, apex of scutellum greyish white; face, pro- and mesosterna and abdomen beneath black; legs ochraceous; tegmina blackish or piceous, a spot at base (sometimes absent), a discal spot near middle, a small spot at claval apex, and two spots, one marginal, on apical area, greyish white; pronotum very finely wrinkled and punctate;



scutellum foveate and transversely striate; tegmina thickly finely punctate.



Fig. 154.—*Considia nitidula*.

Length incl. tegm. 11 to 11½ millim.

*Hab.* Burma (*Schmidt*).—Malay Peninsula; Siam.

Genus **EOSCARTA**. (Vol. IV, p. 115.)

*Eoscarta*, *Bredd. Soc. Ent. Zurich*, xvii, p. 58 (1902); *Dist. Rec. Ind. Mus.* ii, pt. 11, p. 131 (1908); *Lallem. Gen. Insect.* Fasc. 143. p. 115 (1912).

*Euryaulax*, *Kirk. Rep. Exp. Stat. Haw. Plant. Assoc.* pt. ix, p. 380 (1906).

**EOSCARTA BOREALIS**. (Vol. IV, p. 116.)

*Eoscarta borealis*, *Dist. Rec. Ind. Mus.* ii, pt. 11, p. 132 (1908).

*Eoscarta eos*, *Bredd. Soc. Ent. Zurich*, xvii, p. 58 (1902).

*Var.* *Mesosternum* black; legs luteous with the tarsi (or their apices only) black.

Add: *Hab.* Nilgiri Hills; Lovedale (*T. V. Campbell*).

In eleven specimens sent home by Mr. Campbell, ten are of the varietal character described above, and one conforms to the typical standard, save that the tarsi are only black.

3424. ***Eoscarta fuscata***, sp. n.

Head, pronotum, scutellum, and face black or blackish; anterior and intermediate legs black, posterior legs reddish; abdomen above and beneath sanguineous; sternum longly ochraceous; tegmina fuscous brown; vertex of head rugose; face longly centrally furrowed, the lateral areas very finely striate; pronotum finely punctate and pilose, the anterior area more or less distinctly furrowed; scutellum centrally foveate; posterior tibiae spined beyond middle.

Length excl. tegm. 6; exp. tegm. 19 millim.

*Hab.* South India; Kodaikanal (*T. V. Campbell*).

3425. *Eoscarta ferruginea*, sp. n.

Head, pronotum, scutellum, and tegmina pale ferruginous brown; face and abdomen above and beneath sanguineous; sternum and legs brownish ochraceous; face with a distinct, broad, longitudinal furrow, the lateral carinations pronounced, vertex of head rugose, in places punctate, and in some specimens margined with sanguineous; pronotum finely punctate and transversely wrinkled; scutellum centrally foveate; posterior tibiae with a strong spine beyond middle.

Length excl. tegm. 5-8; exp. tegm. 18 millim.

Hab. South India; Kodaikanal (*T. V. Campbell*).

Genus **VIGILANTIUS**, nov.

Type, *V. fascialis*, Dist.

*Distribution.* South India.

Vertex of head wrinkled and tuberculate, broader than long, subtriangular, the apex rounded; face longer than broad, centrally longitudinally sulcate, its lateral areas transversely striate, compressed; pronotum about twice as broad as long, centrally, finely, lineately sulcate, anterior margin behind head subtruncate, the lateral margins moderately convex to base of tegmina and then concave to base of scutellum, posterior margin concavely sinuate, the disk declivous towards head; scutellum about as long as broad, centrally foveate; legs moderately slender, posterior tibiae with a single spine; tegmina more than three times as long as broad, three apical cells.

3426. *Vigilantius fascialis*, sp. n.

Dull dark ochraceous; apical area of vertex and central area of face sanguineous; pronotum thickly finely punctate and faintly

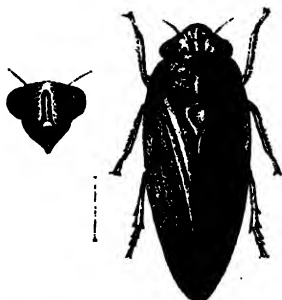


Fig. 155.—*Vigilantius fascialis*.

transversely wrinkled, the anterior margin levigate, behind which on each side is a foveate depression; tegmina faintly, finely

punctate, basal area of the costal margin moderately amplified and slightly recurved; legs ochraceous, anterior femora more or less longitudinally streaked with black or piceous, apices of the tarsi black; structural characters as in generic diagnosis.

Long. 8–9 millim.

*Hab.* South India; Kodaikanal (*T. V. Campbell*).

### Genus **AUFIDUS**.

*Aufidus*, Stål, *Trans. Ent. Soc. Lond.* iii, p. 594 (1863); *Dist. Rec. Ind. Mus.* vol. ii (2), p. 133 (1908); *Lallem. Gen. Insect.* Fasc. 143, p. 121 (1912).

*Aufidellus*, Kirk. *Rep. Exp. Stat. Haw. Plant. Assoc.* ix, p. 381 (1906).

*Aufiterna*, Kirk. *loc. cit.* p. 382 (1906).

Type, *A. trifasciatus*, Stål, from New Guinea.

*Distribution.* India; Malay Peninsula and Archipelago; Australia.

Vertex of head somewhat flattened and concave, nearly twice as broad at base as long, convexly rounded anteriorly, face more or less longitudinally furrowed, ocelli close together near central base; pronotum sexangular; scutellum distinctly foveate; tegmina with the veins distinct, before apex distinctly transversely veined; tibiae a little longer than the femora, posterior tibiae with a strong spine beyond middle.

#### 3427. *Aufidus shillonganus*, sp. n.

Vertex of head pale ochraceous, the basal area between eyes black; pronotum with anterior half pale ochraceous, the basal area marginally black, centrally pale ferruginous; scutellum

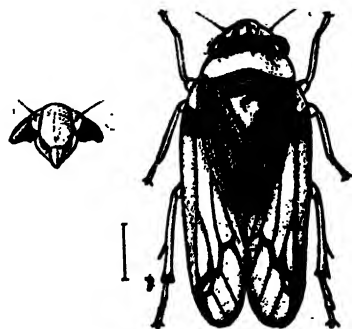


Fig. 156.—*Aufidus shillonganus*.

ochraceous; body beneath and legs ochraceous; prosternum and abdomen beneath more or less piceous; tegmina subhyaline, the claval and subclaval areas pale ferruginous, a broad transverse

blackish spot on costal and subcostal areas near base, the transverse veins defining apical area broadly piceous; pronotum thickly and finely punctate; face only moderately longitudinally furrowed, the lateral areas finely transversely striate; tegmina very finely punctate, more strongly so on the darker areas; posterior tibiae with a strong spine beyond middle.

Length incl. tegm. 7 millim.

*Hab.* Assam; Shillong, The Peak (*S. W. Kemp*).

3428. *Aufidus conterminus*, sp. n.

Head and anterior half of pronotum pale ochraceous, posterior area of pronotum and the scutellum brownish ochraceous; body beneath and legs ochraceous; lateral areas of prosternum, abdomen beneath (excluding base) and apical areas of posterior femora dark castaneous; tegmina pale ochraceous, claval, subclaval, and apical areas fuscous brown; pronotum very finely punctate; scutellum discally foveate; face moderately, centrally, longitudinally furrowed, the lateral transverse striations distinct; posterior tibiae with a strong spine beyond middle.

Length incl. tegm. 5 millim.

*Hab.* Assam—Bhutan Frontier.

Genus **PHYMATOSTETHA**. (Vol. IV, p. 118.)

*PHYMATOSTETHA DORSIVITTA*. (Vol. IV, p. 124.)

Add: *Hab.* Kumaon; Bhowali (*Ind. Mus.*).

*PHYMATOSTETHA DESCHAMPSI*. (Vol. IV, p. 128.)

Add: *Hab.* Cochin State; Trichur (*F. H. Gravely*). Nilgiri Hills (*H. L. Andrews*).

3429. *Phymatostetha rufolimbata*, *Schmidt*, *Arch. f. Naturg.* 76, p. 95 (1910).

Head, pronotum, and scutellum pale ochraceous; a broad transverse fascia at base of head (enclosing the ocelli), basal angles, lateral margins, and apex of scutellum black; abdomen above black with bluish-grey pilosity, which forms more or less distinct transverse segmental spots; body beneath black; central disk of face, lateral margins of prosternum, and coxæ (more or less) ochraceous; abdomen beneath covered with bluish-grey waxy pile; legs black, femora and tibiae broadly streaked with ochraceous, posterior tibiae almost wholly ochraceous; tegmina pale fuscous, costal and apical margins testaceous, the former more ochraceous near base, six ochraceous spots and the claval area largely of the same colour; wings pale bronzy-brown, the extreme base sanguineous; head with a faint central carination on front and an oblique incised line on each side separating it from vertical angles; scutellum distinctly centrally foveately depressed;

pronotum impressed on each side near anterior margin, the lateral margins moderately reflexed; rostrum very slightly passing the intermediate coxæ; face globose, distinctly transversely striate on



Fig. 157. —*Phymatostetha rufolimbata*.

each lateral area; posterior tibiæ with two long spines, one near base, the other beyond middle; tegmina about three times as long as broad.

Length excl. tegm., ♀ 19; exp. tegm. 42 millim.

Hab. Burma; Karennee (*Fca*—*Genoa Mus.*).

3430. *Phymatostetha similis*, Schmidt, *Arch. f. Naturg.* 76, p. 96 (1910).

Head, pronotum, and scutellum reddish ochraceous; base of head between eyes, two spots near anterior margin of pronotum, narrow margins and apex of scutellum, black; abdomen above glossy bluish black, the three terminal segments and anal appendage reddish ochraceous; body beneath and legs black; face excluding apex and lateral margins of prosternum reddish ochraceous; base of rostrum pale fuscous; tegmina reddish ochraceous, four black spots on costal area, the second united to the basal spot, the fourth smallest and rounded, two small dark spots near upper margin of claval area; wings pale bronzy, extreme base sanguineous; head with a faint central incised line to front; pronotum with the lateral margins moderately reflexed; scutellum centrally depressed; face globose, the lateral areas faintly, transversely striate, and centrally somewhat obsoletely longitudinally sulcate; rostrum reaching the intermediate coxæ; posterior tibiæ with two strong spines, one near base, the other beyond middle; tegmina about two and a half times as long as broad.

Length excl. tegm., ♀ 18; exp. tegm. 46 millim.

Hab. Burma; Karennee (*Fca*—*Genoa Mus.*).

Allied to *P. basiclava*, Walk. (vol. iv, p. 127).

3431. *Phymatostetha tæniata*, Schmidt, *Arch. f. Naturg.* 76, p. 96 (1910).

Head, pronotum, and scutellum dull purplish black; head with the front and anterior angles of vertex, anterior lateral margins

of pronotum, and lateral margins of scutellum more or less sanguineous; two small spots at basal margin of head, ochraceous; abdomen above shining bluish black; body beneath and legs more or less black, face and lateral margins of prosternum sanguineous; tegmina dull purplish black, thickly, finely, palely pilose; costal margin, interior claval margin, and two transverse fasciæ (one before and the other beyond middle), sanguineous, apical margin ochraceous; tegmina pale bronzy, extreme base sanguineous; pronotum finely, thickly granulose; rostrum reaching the intermediate coxæ; posterior tibiæ with two strong spines, one near base, the other beyond middle; tegmina about two and a half times as long as broad.

Length excl. tegm., ♀ 17; exp. tegm. 38 millim.

Hab. Burma; Karennie (Fea—Genoa Mus.).

PHYMATOSTETHA STÅL. (Vol. IV, p. 119.)

Phymatostetha subcostalis, Schmidt, Arch. f. Naturg. 76, p. 98 (1910).

Phymatostetha stål, Dist. A. M. N. H. (8) xiv, p. 333 (1914).

Add: Hab. Burma; Karennie (Fea).

Genus COSMOSCARTA. (Vol. IV, p. 128.)

Since I enumerated and described the species of *Cosmoscarta* belonging to the Indian fauna, employing that genus in its comprehensive character as founded by Stål and used by other workers, Dr. Schmidt has subdivided *Cosmoscarta* into a number of new genera, and these have been adopted by Dr. Lallemand in his enumeration of the Cercopidæ in Wytsman's 'Genera Insectorum.' I have now drawn attention to these and pointed out the species which would be involved in this new arrangement.

Dr. Gestro, of the Genoa Museum, has greatly assisted me by kindly loaning the types of Dr. Schmidt's species for comparison.

COSMOSCARTA DECISA. (Vol. IV, p. 130.)

Add: Hab. Cochin State; Kavalai, Parambikulam (F. H. Gravely).

COSMOSCARTA EGENS. (Vol. IV, p. 135, fig. 98.)

*Cosmoscarta innota*, Schmidt, Arch. f. Naturg. 76, p. 72 (1910).

Var. *Cosmoscarta innominata*, Schmidt, l. c. p. 73.

*Cosmoscarta egens*, Dist. A. M. N. H. (8) xiv, p. 333 (1914).

Add: Hab. Burma; Karennie (Fea).

3432. *Cosmoscarta chrysomelæna*, Butl. Cist. Ent. i, p. 255 (1874).

Head (including face), pronotum, and prosternum black; meso- and metasterna, legs and abdomen above and beneath orange-

yellow; abdomen beneath with the segments more or less transversely fasciated with black, usually on the lateral areas and connexivum; tegmina black, basal area and a transverse fascia before apical area orange-yellow; wings pale fuliginous, extreme base and costal margin orange-yellow; head transversely impressed at about one-third from base, but not extending beyond a longitudinal impression on each side of the ocelli; pronotum with a central longitudinal carination on its anterior half; mesonotum with two central tubercles between which the rostrum passes and reaches the intermediate coxæ; face globosely prominent, transversely striate and medially longitudinally impressed; tegmina densely finely punctate, the reticulate veins on the apical area prominently raised; posterior tibiæ with one strong spine beyond middle; tarsal terminal joint sometimes but not invariably black.

Length excl. tegm. 10; exp. tegm. 29–30 millim.

*Hab.* Assam (*Brit. Mus.*).—Siam; Laos (*Mouhot—Brit. Mus.*). China; Shanghai (*Fortune—Brit. Mus.*).

This species should be placed between *C. heroina* and *C. montana* (vol. iv, pp. 129 & 130).

### 3433. *Cosmoscarta graveleyi*, sp. n.

Head, pronotum, and scutellum shining indigo-black; body beneath and legs testaceous brown; abdomen above testaceous brown with the segmental margins black; tegmina ochraceous, costal and apical areas, the latter connected with a large quadrate spot extending from apical area of clavus to above middle of tegmen, and a basal streak on outer margin of clavus, fuscous brown; pronotum centrally longitudinally ridged, and foveately impressed on each lateral area near base; face globose, laterally compressed, the lateral striations fine but distinct, the lateral margins distinctly and somewhat strongly reflexed; posterior tibiæ with a long spine beyond middle.

*Var.* Tegmina with the ground-colour sanguineous, not ochraceous.

Length excl. tegm. 9–11; exp. tegm. 24–27 millim.

*Hab.* Dawna Hills; Thingannyinaung to Sukli (*F. H. Graveley*).

*COSMOSCARTA NAITEARA.* (Vol. IV, p. 142.)

Add: *Hab.* Cochin State; Forest Tramway, Parambikulam to Kavalai (*F. H. Graveley*).

*COMOSCARTA RELATA.* (Vol. IV, p. 143.)

Add: *Hab.* Coorg; Pollibetta (*T. Bainbrigge Fletcher*).

### 3434. *Cosmoscarta lunata*, *Dist. A. M. N. H.* (8) xiv, p. 327 (1914).

Body, legs, and tegmina ochraceous, sometimes the abdomen above is a little darker and more testaceous; wings very pale bronzy-brown; the tegmina when closely examined have some

obsolete darker fasciate markings; eyes blackish; pronotum with two discal dark bipunctate markings a little before the anterior margin, a faint central longitudinal impressed line, the lateral margins moderately reflexed, a distinct oblique impression a little before each lateral angle; face globose, centrally distinctly but shallowly longitudinally sulcate; rostrum reaching the intermediate coxæ; posterior tibiæ with a moderately long spine beyond middle and a short spine near base; tegmina a little more than two and a half times longer than broad.

Length excl. tegm. 10; exp. tegm. 26-29 millim.

*Hab.* North India (*Brit. Mus.*).

3435. *Cosmoscarta dimota*, Schmidt, *Arch. f. Naturg.* 76, p. 74 (1910).

Head bluish black; pronotum ochraceous, with an anterior marginal fascia behind eyes and a broad central transverse fascia between the lateral angles bluish black; scutellum ochraceous, its apical area tinged with sanguineous; abdomen above dull sanguineous, the segmental margins alternately paler and black; body beneath black; lateral margins of prosternum ochraceous:



Fig. 135. *Cosmoscarta dimota*

legs sanguineous; tegmina ochraceous, basal area of costal membrane, two large spots on basal area, three large spots a little beyond middle, and the apical area black; wings very pale fuliginous; vertex of head excavated on each side before eyes; anterior lateral margins of pronotum a little reflexed; tegmina about two and a half times longer than broad.

Length incl. tegm., ♂ 7; exp. tegm. 20 millim.

*Hab.* Burma; Karenuee (*Fea—Genoa Mus.*).

3436. *Cosmoscarta discessa*, Schmidt, *Arch. f. Naturg.* 76, p. 75 (1910).

Head and pronotum fuscous brown, front of head and anterior lateral pronotal margins paler ochraceous; scutellum ochraceous; abdomen above sanguineous with transverse blackish segmental fasciæ; body beneath and legs dark ochraceous, abdomen beneath



and connexivum sanguineous spotted with black; tegmina ochraceous with about six large black spots (one on costal margin near base, the others in two oblique series), the apical area fuscous brown, internally somewhat broken and maculate; wings pale bronzy brown; pronotum with an oblique discal linear impression on each side before the lateral angles; scutellum with a central longitudinal ridge which bifurcates anteriorly towards the basal angles, posterior tibiæ with a strong spine before apex and a shorter and more obscure spine near base; tegmina about two and a half times as long as broad.

Length excl. tegm., ♀ 11; exp. tegm. 29 millim.

Hab. Burma; Karennee (*Fea—Genoa Mus.*).

Allied to *C. dorsalis*, Walk. (vol. iv, p. 146).

3437. *Cosmoscarta ochraceicollis*, Schmidt, *Arch. f. Naturg.* 76, p. 76 (1910).

Head fuscous, front with a pale lateral spot before eyes; pronotum pale ochraceous, the posterior margin blackish; scutellum blackish; abdomen above and beneath black, connexivum spotted with ochraceous; sternum and legs castaneous, tibiæ a little darker; tegmina pale fuscous brown, with about seven darker spots in two curved oblique series, the apical area also distinctly darker; wings pale bronzy; pronotum with a slender, straight, central longitudinal line; scutellum with a central ridge which anteriorly bifurcates towards the basal angles; face distinctly centrally depressed on basal area; posterior tibiæ with a long spine beyond middle and a smaller obscure spine near base; tegmina about two and a half times as long as broad.

Length excl. tegm., ♂ 9; exp. tegm. 24 millim.

Hab. Burma; Karennee (*Genoa Mus.*).

3438. *Cosmoscarta fumosa*, *Dist. A. M. N. H.* (8) xiv, p. 329 (1914).

Head, pronotum, and scutellum pale castaneous, pronotum with two large black spots near anterior margin, ocelli pale ochraceous; abdomen above and beneath black, the posterior segmental margins pale castaneous; sternum black; lateral margins of prosternum, and legs pale fuscous; face, rostrum, coxæ, trochanters, bases of femora, and posterior tibiæ pale castaneous, spines to posterior tibiæ dark fuscous; tegmina dark dull purplish red, apical area and about seven large spots black, the spots placed, one basal and two curved transverse series of three spots each; wings very pale fuliginous, the veins darker; face globose, the central sulcation broad but not profound; rostrum reaching the intermediate coxæ; tegmina not quite two and a half times as long as broad; posterior tibiæ with a long prominent spine beyond middle and a short spine near base.

Length excl. tegm. 13; exp. tegm. 32 millim.

Hab. Darjiling (type *Brit. Mus.*); Sikhim, Rungpo (*Ind. Mus.*).

Allied to *C. ochraceicollis*, Schmidt.

3439. *Cosmoscarta assamensis*, *Dist. A. M. N. H.* (8) xiv, p. 328 (1914).

Head, pronotum, and scutellum black; a broad transverse fascia across anterior area of pronotum and the basal area of the scutellum pale dull reddish; abdomen above shining castaneous; body beneath black; rostrum and legs dull castaneous; tegmina dull blackish, base of costal membrane, basal area of clavus, an irregular transverse fascia near middle, and another much outwardly angulated fascia before apical area, dull sanguineous; wings pale fuliginous, the extreme base sanguineous; scutellum distinctly depressed at base, transversely striate; face globose, central longitudinal sulcation broad but shallow; rostrum reaching the intermediate coxæ; tegmina a little less than two and a half times as long as broad; posterior tibiæ with a long robust spine beyond middle and a short spine near base.

Length excl. tegm. 12; exp. tegm. 32 millim.

*Hab.* Assam; Margherita (*Brit. Mus.*).

Allied to the Chinese species *C. himacula*, Walk.

3440. *Cosmoscarta imrayi*, *Dist. A. M. N. H.* (8) xiv, p. 328 (1914).

Head, pronotum, and scutellum shining black; lateral and posterior margins of pronotum and a transverse fascia before middle sanguineous, lateral margin and nearly apical half of scutellum sanguineous; abdomen above blackish, with the segmental margins pale sanguineous; body beneath shining black; posterior half of face, greater part of prosternum, coxæ, trochanters, and legs pale sanguineous, tarsi black; tegmina dark shining ochraceous, apical area and six spots shining black, the spots in two transverse series of three each, the two largest on costal membrane, the smallest in middle of inner series; wings very pale fuliginous; face rather prominently longitudinally sulcate; rostrum reaching the intermediate coxæ; tegmina nearly two and a half times as long as broad; posterior tibiæ with a moderately long spine beyond middle and a short spine near base.

Length excl. tegm. 10; exp. tegm. 21 millim.

*Hab.* Travancore; Peermaad (*R. S. Imray, Brit. Mus.*).

Allied to *C. flora*, *Dist.* (vol. iv, p. 146).

3441. *Cosmoscarta nympha*, *Dist. A. M. N. H.* (8) xiv, p. 329 (1914).

Head and scutellum black; pronotum ochraceous, with an anterior fascia behind eyes and the posterior margin broadly black; abdomen above shining black, the posterior segmental margins narrowly dull ochraceous; body beneath black, legs somewhat fuscous; tegmina pale testaceous, apical area paler, more ochraceous, and there fuscous on the apical margin, beyond middle three fuscous spots in transverse series, the two uppermost small, the lowermost larger and somewhat lunate in shape; wings palely

fuliginous; face with the central sulcation moderately well pronounced (especially near base, where it is broadest); rostrum reaching the intermediate coxæ; tegmina less than two and a half times as long as broad; posterior tibiæ with a prominent long spine beyond middle, and a smaller but distinct spine near base.

Length excl. tegm. 11; exp. tegm. 30 millim.

*Hab.* Assam; Khasi Hills (*Chennell, Brit. Mus.*).

Allied to *C. dimidiata*, Dall. (vol. iv, p. 136).

3442. *Cosmoscarta balteata*, *Dist. A. M. N.H.* (8) xiv, p. 329 (1914).

Head, pronotum, and scutellum shining black; pronotum with a broad, anterior, transverse, ochraceous fascia; abdomen above and body beneath and legs black; lateral margins of prosternum ochraceous; tegmina black, two basal streaks (one in costal membrane, the other in clavus) and three small spots in somewhat transverse series beyond middle pale testaceous; wings very pale fuliginous; face obsoletely centrally sulcate; rostrum reaching the intermediate coxæ; tegmina less than two and a half times as long as broad; posterior tibiæ with a strong spine beyond middle and a small spine near base.

Length excl. tegm. 12; exp. tegm. 32 millim.

*Hab.* Sikkim; Dam Din (*Brit. Mus.*).

3443. *Cosmoscarta gracilis*, *Schmidt, Arch. f. Naturg.* 76, p. 77 (1910).

Head and pronotum black, lateral and posterior margins of pronotum ochraceous; scutellum bluish black, its apex ochraceous; body beneath and legs ochraceous, central fascia to face black; tegmina bright fuscous brown, apical area a little paler, base and basal costal margin ochraceous, a pale stramineous fascia crossing tegmen before middle and a costal spot of the same colour before apex; basal pronotal margin a little concave before scutellum, which is foveately depressed on basal area; face much compressed; rostrum reaching the intermediate coxæ; tegmina about two and a half times as long as broad.

Length incl. tegm. 10 millim.

*Hab.* Burma; Karennee (*Genoa Mus.*).

3444. *Cosmoscarta trifasciata*, *Schmidt, Arch. f. Naturg.* 76, p. 78 (1910).

Head, pronotum, and scutellum bluish black; abdomen above blackish; body beneath bluish black, tibiæ and tarsi more fuscous in hue; tegmina dark fuscous with three transverse ochraceous fasciæ, the broadest at base, second near middle, third beyond middle; wings pale bronzy; face globose: pronotum with the anterior lateral margins distinctly reflexed; scutellum distinctly foveate at base; posterior tibiæ with a prominent spine beyond

middle and a very short obscure spine near base; tegmina about two and a half times as long as broad.

Length excl. tegm., ♂ 7; exp. tegm. 22 millim.

*Hab.* Sikhim (*Brit. Mus.*). Burma; Karennee (*Genoa Mus.*).

**3445. *Cosmoscarta himalayana*, Dist. A. M. N. H. (8) xiv, p. 330 (1914).**

Body above and beneath bluish black; rostrum, coxæ, trochanters, and femora sanguineous, tibiæ and tarsi black; tegmina black, a more or less transverse spot in bases of both costal membrane and clavus, and two waved transverse fasciæ (one before, the other beyond middle) pale sanguineous; wings pale fuliginous; pronotum distinctly foveate on each side before anterior margin, the lateral margins distinctly reflexed; rostrum only just reaching the intermediate coxæ; tegmina two and a half times as long as broad.

Length excl. tegm. 9; exp. tegm. 26 millim.

*Hab.* East Himalayas (*Brit. Mus.*).

Allied to *C. margherita*, Dist. (vol. iv, p. 134).

**3446. *Cosmoscarta nigriventris*, Schmidt, *Arch. f. Naturg.* 76, p. 79 (1910).**

Head ochraceous; pronotum stramineous; scutellum castaneous, more or less palely pilose; abdomen above black, posterior segmental margins and the anal segment more or less castaneous; body beneath blackish; face and anterior lateral margins of sternum pale ochraceous; legs brownish ochraceous, apices of the tarsi black; tegmina pale testaceous, apical area paler with the venation testaceous, two black spots in claval area and three or four similar spots outside it, one central, the remaining spots subapical; wings fuliginous; pronotum with a central longitudinal carinate line; tegmina about two and a half times as long as broad; rostrum reaching the intermediate coxæ; posterior tibiæ with a very prominent spine a little beyond middle.

Length incl. tegm. 14 millim.

*Hab.* Burma; Karennee (*Fea—Genoa Mus.*).

Allied to *C. fictilis*, Bntl. (vol. iv, p. 148).

**3447. *Cosmoscarta peguensis*, Schmidt, *Arch. f. Naturg.* 76, p. 80 (1910).**

Head blackish, the anterior margin from front of eyes ochraceous; pronotum ochraceous, with two large black discal spots, united anteriorly; scutellum ochraceous, its apex black; abdomen above dark ochraceous, its basal area somewhat blackish; body beneath and legs ochraceous, some dark lateral sternal spots, apices of tarsi black; tegmina ochraceous, the apical area and

two transverse fasciæ—one near base and slightly broken, the other beyond middle—black; wings slightly fuscous, darker at base; pronotum with a very faint central longitudinal carinate line; tegmina about two and a half times longer than broad; posterior tibiæ with a prominent spine beyond middle.

Length excl. tegm. 9; exp. tegm. 22 millim.

Hab. Pegu; Palon (*Fea—Genoa Mus.*).

**3448. *Cosmoscarta brevis*, Schmidt, *Arch. f. Naturg.* 76, p. 81 (1910).**

Head, pronotum, and scutellum indigo-blue; abdomen above blackish, the basal area broadly ochraceous; head beneath and sternum bluish black; legs and abdomen beneath ochraceous; tegmina dark fuscous, a large whitish costal spot beyond middle; wings greyish white with the veins darker; pronotum with a distinct central longitudinal carinate line; scutellum with the disk strongly excavate; tegmina little more than twice as long as broad.

Length excl. tegm. 7; exp. tegm. 16 millim.

Hab. Pegu; Palon (*Fea—Genoa Mus.*).

A small species allied to *C. shillongana*, Dist. (vol. iv, p. 133).

**COSMOSCARTA AFFINIS. (Vol. IV, p. 154.)**

*Var.* Tegmina with a prominent irregularly-shaped black spot on disk beyond middle, a small and indistinct linear spot near apex of clavus and a similar spot near base, black.

Hab. Ceylon; Ratnapura (*T. Bainbriggæ Fletcher*).

**3449. *Cosmoscarta prompta*.**

*Cosmoscarta prompta*, Schmidt, *Arch. f. Naturg.* 76, p. 72 (1910);

*Lallem. Gen. Insect. Fasc.* 143, p. 132, n. 31 (1912).

Hab. Burma.

As this species is contained in the Stettin Museum, I have no opportunity at present of seeing it, or having anything compared with it. I can therefore only draw attention to its description.

**Genus GYNOPYGOLAX.**

*Gynopygolax*, Schmidt, *Stett. Ent. Zeit.* 70, p. 147 (1909); *Lallem.*

*Gen. Insect. Fasc.* 143, pp. 77 & 127 (1912).

*Cosmoscarta* (Vol. IV, p. 128), part.

Type, *G. proserpina*, White, from the Philippines.

*Distribution.* Burma and Malayan Region.

Dr. Lallemant, in his 'Table des Genres' separates this genus from *Cosmoscarta* by the following characters:—"Écusson grand à disque, creusé en fosette; protubérance du mésosternum fortes; médian et cubitus moins divergents." Only one species is at present enumerated in this fauna, and it is here described and figured.

3450. *Gynopygolax nigriscutellata*, Schmidt, *Arch. f. Naturg.* 76, p. 53 (1910).

Head, pronotum, and tegmina testaceous red; scutellum, two basal spots, and a more or less broken transverse fascia to tegmina (near middle) black, apical area of tegmen fuscous brown, its apical margin paler; body beneath black; face, clypeus, lateral



Fig. 159.—*Gynopygolax nigriscutellata*.

margins of prosternum, rostrum, coxae and legs, and apical area of abdomen testaceous red; head with two impressions near base; anterior lateral margins of pronotum moderately reflexed; tegmina about two and a half times as long as broad.

Length incl. tegm. 21 to 22 millim.

*Hab.* Burma; Karennee (*Fea*—*Genoa Mus.*).

### Genus HOMALOSTETHUS.

*Homalostethus*, Schmidt, *Stett. Ent. Zeit.* 72, p. 52 (1911); *Lallem.*

*Gen. Insect. Fasc.* 143, pp. 78 & 138 (1912).

*Cosmoscarta* (Vol. IV, p. 128), part.

Type, *H. terpsichore*, Stål, from the Papuan Region.

*Distribution.* Ceylon and Malayan Archipelago.

This genus appears to be separated from *Gynopygolax* by the character of "mésosternum sans protubérance, son bord antérieur en forme de pli."

One species is included from our fauna :—

*COSMOSCARTA TENNANTI.* (Vol. IV, p. 145, fig. 103.)

### Genus OPISTARSOSTETHUS.

*Opistarsostethus*, Schmidt, *Stett. Ent. Zeit.* 72, p. 55 (1911);

*Lallem. Gen. Insect. Fasc.* 143, p. 143 (1912).

*Opistarsostethus*, *Lallem. Gen. Insect. Fasc.* 143, p. 78 (1912).

*Cosmoscarta* (Vol. IV, p. 128), part.

Type, *O. octopunctatus*, A. & S., from Java.

*Distribution.* Brit. India, Malay Peninsula, Malayan Archipelago.

Dr. Lallemand gives the following salient characters for the genus :—"Rostre atteignant à peine le bord antérieur du méso-

sternum ses deux articles étant d'inégale longueur ; bord postérieur du pronotum droit ; élytres ayant le médian et le cubitus plus divergents vers le apical."

One species is included from our fauna :—

**COSMOSCARTA MENACA.** (Vol. IV, p. 149.)

There should also be included

**COSMOSCARTA NIGROFASCIATA.** (Vol. IV, p. 141.)

### Genus **SIMELIRIA.**

*Simeliria*, *Schmidt, Stett. Ent. Zeit.* 70, p. 285 (1909) ; *Lallem. Gen. Insect. Fasc.* 143, pp. 78 & 145 (1912).

*Cosmoscarta* (Vol. IV, p. 128), part.

Type, *S. viridans*, Guér.

*Distribution.* Brit. India, Cambodia, Malay Peninsula, Malayan Archipelago, and Nias Islands.

Dr. Lallemand in his 'Table des Genres' gives the following clue to *Simeliria* :—"Bord antérieur du mésosternum saillant, quelquefois foliacé, protubérances du mésosternum non conique. Rostre n'atteignant pas les hanches médianes."

The following species is included from our fauna :—

**COSMOSCARTA VIRIDANS.** (Vol. IV, p. 155.)

### Genus **SURACARTA.**

*Suracarta*, *Schmidt, Stett. Ent. Zeit.* 70, p. 106 (1909) ; *Lallem. Gen. Insect. Fasc.* 143, pp. 78 & 147 (1912).

*Cosmoscarta* (Vol. IV, p. 128), part.

Type, *S. tricolor*, St. Farg. & Serv.

*Distribution.* Tenasserim, Malay Peninsula, Malayan Archipelago.

Separated by Dr. Lallemand from the following genus *Leptataspis* by having the "Bord antérieur du pronotum non foliacé, portant deux protubérances."

Two species are included from our fauna :—

**COSMOSCARTA TRICOLOR.** (Vol. IV, p. 150, fig. 105.)

**COSMOSCARTA BASINOTATA.** (Vol. IV, p. 151.)

### Genus **LEPTATASPIIS.**

*Leptataspis*, *Schmidt, Stett. Ent. Zeit.* 72, p. 81 (1911) ; *Lallem. Gen. Insect.* pp. 78 & 149 (1912).

*Cosmoscarta* (Vol. IV, p. 128), part.

Type, *L. siamensis*, Butl.

*Distribution.* Brit. India, Malay Peninsula, Malayan Archipelago.

Allied to the preceding genus *Suracarta*, from which Dr. Lallemand states it differs by the following characters:—"Bord antérieur du pronotum foliacé, sans protubérance."

3451. *Leptataspis pirollei*, *Lallem. Gen. Insect. Fasc. 143*, p. 151, pl. 7, f. 4 (1912).

Head, pronotum, scutellum, and tegmina brilliant black; the posterior margins of the pronotum and basal margins of tegmina are brownish ochraceous; body beneath black, the segmental margins brownish ochraceous; legs brownish ochraceous; posterior tibia with a strong spine beyond the middle.

Length 14 millim.

*Hab.* Mahé.

I only know this species by the description and figure of the describer.

The following species are included in our fauna:—

*COSMOSCARTA INCLUSA.* (Vol. IV, p. 140.)

*COSMOSCARTA ROTUNDATA.* (Vol. IV, p. 144.)

*Leptataspis plagiventris*, *Schmidt, Arch. f. Naturg.* 76, p. 65 (1910).  
Add: *Hab.* Burma; Karennee (*Pea*).

*COSMOSCARTA SIAMENSIS.* (Vol. IV, p. 151.)

*COSMOSCARTA FULVICEPS.* (Vol. IV, p. 152.)

*COSMOSCARTA MOOREI.* (Vol. IV, p. 152.)

*COSMOSCARTA FUSCIPENNIS.* (Vol. IV, p. 153.)

*COSMOSCARTA LEONINA.* (Vol. IV, p. 153.)

*COSMOSCARTA MASONI.* (Vol. IV, p. 156.)

Family JASSIDÆ. (Vol. IV, p. 157.)

Subfamily LEDRINÆ. (Vol. IV, p. 158.)

Genus *PETALOCEPHALA.* (Vol. IV, p. 162.)

The late Mr. Kirkaldy (Rep. Exp. Stat. Haw. Plant. Assoc. Bull. iii, p. 25 (1907)) stated that I had "overlooked the fact that *Petalocephala* is a synonym of *Camptelasmus*." This statement is, however, untenable, as I have previously explained (Ann. Ent. Soc. Belg. 1908, p. 98), and requires a reply here.



*Camptelasmus*, Spin. (Mem. Mat. Fis. Soc. Ital. Sci. Modena, xxv, part 1, pp. 98 & 150), is described particularly as having "ocelli nulli." Stål (Hem. Afr. iv, p. 103 (1886)), in redescribing his genus *Petalocephala*, writes "ocelli versus basin verticis positi, ab oculis quam inter se longius remoti." He certainly also states: "Genus *Camptelasmus*, Spin., *Petalocephalæ* affine videtur," but, in 1870 (Öfv. Vet.-Ak. Förh. p. 732), he used his genus *Petalocephala*, as he had every reason to do, a course which I have followed here and elsewhere.

PETALOCEPHALA CONICA. (Vol. IV, p. 164.)

This species has been taken by Mr. T. Bainbrigge Fletcher at Peradeniya, Ceylon, on the bamboo, *Dendrocalamus giganteus*.

PETALOCEPHALA UNIFORMIS. (Vol. IV, p. 165.)

Add: *Hab.* South India; Chikkaballapura (*T. V. Campbell*); Coimbatore, S. Canara, Puttur and Shevaroy Hills (*Pusa Coll.*).

PETALOCEPHALA LATIFRONS. (Vol. IV, p. 166.)

Add: *Hab.* Ceylon; Nuwara Eliya (*Green*).

3452. *Petalocephala cephalotes*, sp. n.

Virescent; body beneath and legs more ochraceous; vertex of head about as long as breadth between eyes, longer than pronotum, but not convexly narrowing till near middle, thickly finely punctate, two oblique series of granules commencing at apex and not continued beyond middle; pronotum thickly finely punctate; scutellum finely punctate, the apical area depressed, striate, and paler in coloration; tegmina finely punctate, more coarsely so in the claval area, two minute black spots at claval apices and two similar spots on tegminal suture near middle; posterior tibiæ prominently dentate.

Length incl. tegm.  $10\frac{1}{2}$  millim.

*Hab.* Nilgiri Hills; Coonoor (*T. V. Campbell*).

A species to be recognized by the broadly shaped head.

3453. *Petalocephala signata*, sp. n.

Head, pronotum, and scutellum virescent; vertex of head with a large central oblong black spot, almost reaching base; body beneath pale virescent or ochraceous, face with a large central black spot; tegmina virescent or ochraceous, claval area—more or less—a somewhat broken oblique fascia crossing middle, and the inner margin castaneous; legs virescent or ochraceous; vertex of head about as long as breadth between eyes, the lateral margins

nearly straight for about half their length and then obliquely narrowed to apex, strongly centrally carinate; pronotum finely

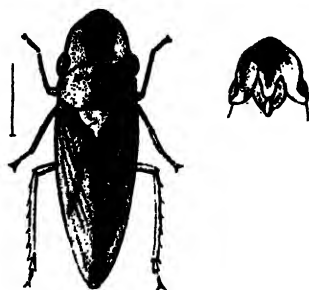


Fig. 160.—*Petalocephala signata*.

transversely wrinkled and centrally longitudinally impressed; scutellum transversely impressed before apex.

Length 8-9 millim.

*Hab.* South India; Kodaikanal (*T. V. Campbell*).

3454. *Petalocephala bombayensis*, *Dist. A. M. N. II.* (8) x, p. 441 (1912).

Head, pronotum, scutellum, body beneath, and legs very pale virescent or greenish ochraceous; tegmina subhyaline, talc-like, the clavus and basal third of costal area pale virescent or greenish ochraceous, inner area of clavus more or less castaneous; lateral margins of vertex and pronotum and a small central spot on anterior and posterior margins of pronotum castaneous; vertex about as long as breadth between eyes, lateral margins almost straight for a little before eyes and then subangularly rounded to apex, centrally medially carinate; pronotum centrally finely longitudinally impressed, more or less distinctly transversely wrinkled; face strongly flattened from in front of eyes to anterior margin; posterior tibiae outwardly strongly spinose.

Length, ♀, 9 millim.

*Hab.* Bombay (*Brit. Mus.*). Nilgiri Hills (*Sir F. Hampson*). South India; Mysore State and Chikkaballapura (*T. V. Campbell*). Ceylon; Kandy (*E. E. Green*). Burma; Ruby Mines (*Doherty*).

In general coloration allied to *P. nigrilinea*, Walk., but differing in the larger vertex of head, which is about as long as breadth between eyes.

Since I described this species under the above name, I have received it from a number of different localities. It was only known to me previously from Bombay.

3455. *Petalocephala granulosa*, *Dist. Entomologist*, 1910, p. 196.

Pale virescent; vertex shorter than breadth between eyes, finely punctate, centrally longitudinally finely subcarinate, the

lateral margins oblique from a little in front of eyes, and narrowing to apex, which is subacute; eyes brownish; pronotum with the basal area a little darker in hue, where it is finely granulose, the lateral and anterior margins distinctly narrowly darker, the posterior margin strongly concave before scutellum, which is somewhat thickly finely punctate; clavus thickly punctate, and with a few fine granules; tegmina subhyaline, thickly finely punctate, the apical margin narrowly black, inwardly narrowly longly dentate; body beneath and legs virescent.

Length incl. tegm. 8 millim.

*Hab.* Bengal; Pusa (*H. Maxwell-Lefroy*). Nilgiri Hills, Ootacamund (*T. V. Campbell*). South India; Chikkaballapura and Salem (*T. V. Campbell*).

Most nearly allied to *P. bombayensis*, Dist.

Prof. Maxwell-Lefroy, in forwarding specimens of this species, informed me that "we have reared this from nymphs which are fixed to mango leaf, very tightly pressed down on to it so as to be very difficult to see; they are more or less transparent, and sit motionless, very much as a scale insect does. They are not common."

#### 3456. *Petalocephala bainbriggei*, sp. n.

Pale virescent; body beneath and legs more ochraceous, apices of tibiæ and tarsi more or less opaline-green; vertex of head shorter than breadth between eyes, finely punctate, centrally obscurely longitudinally carinate, the lateral margins almost straight in front of eyes and then broadly obliquely rounded to apex; pronotum moderately convex, finely punctate and transversely wrinkled, the posterior lateral angles rounded, the base concave; scutellum closely rather coarsely punctate, the apical area transversely striate; tegmina subhyaline, the claval and subclaval areas more opaque and virescent, the claval area thickly coarsely punctate, and somewhat at right angles with the rest of the tegmina.

Length incl. tegm. 9 millim.

*Hab.* South India; Coimbatore (*T. Bainbrigge Fletcher*).

Allied to the preceding species, *P. granulosa*, from which it differs by its larger size, more oblique lateral margins of the vertex, the non-granulated clavus, different colour and markings, &c.

#### Genus **LEDRA**. (Vol. IV, p. 171.)

#### 3457. *Ledra quadricarina*, *Walk. List Hom. Suppl.* p. 249 (1858).

Brownish ochraceous, body beneath and legs paler and more ochraceous; vertex of head nearly twice as broad at base as central length, broadly obliquely convex, centrally longitudinally ridged, the anterior area darkly tuberculous; face pale ochraceous, more or less blackened anteriorly; pronotum with the disk gibbous, a prominent central longitudinal ridge on each side,

between which are two much less raised and straighter ridges, the base strongly concave, the lateral areas oblique, punctate; scutellum slightly foveate; tegmina with a more or less distinct broad paler fascia occupying the basal area, the claval area distinctly tuberculate, the apical area paler in hue but with the veins darker; posterior tibiae a little amplified and broadly sulcate beneath.

Length incl. tegm. 14-14½ millim.

*Hab.* Bengal, Calcutta (*Atkinson Coll.*); S. Canara, Puttur and Godavari Distr., Podagatlalallee (*Pusa Coll.*).--China; Hong Kong (*Bourring, Brit. Mus.*).

**LEDRA INTERMEDIA.** (Vol. IV, p. 172.)

Add: *Hab.* Ceylon; Maskeliya (*T. Bainbrigge Fletcher, Brit. Mus.*).

**LEDRA METICA.** (Vol. IV, p. 173.)

Add: *Hab.* South India; Coimbatore (*T. Bainbrigge Fletcher*).

**LEDRA DILATATA.** (Vol. IV, p. 174.)

Add: *Hab.* Near Calcutta, Sibpur Botanical Gardens (*Mrs. Everett*). Calcutta (*Ind. Mus.*). Podagatlalallee; Godavari Distr. (*Pusa Coll.*).

Genus **CONFUCIUS.** (Vol. IV, p. 178.)

**CONFUCIUS BITUBERCULATUS.** (Vol. IV, p. 179.)

Add: *Hab.* South India; Coimbatore (*T. Bainbrigge Fletcher*).

Genus **LEDROPSIS.** (Vol. IV, p. 180.)

3458. **Ledropsis lutescens**, sp. n.

Head, pronotum, scutellum, and tegmina pale umber-brown, tegmina with some small scattered greyish-white spots; body beneath and legs more or less pale ochraceous, the tibiae distinctly darker in coloration, anterior area of face mottled with testaceous; vertex of head longer than the breadth between eyes, slightly upturned towards apex which is obtusely acute, the lateral margins oblique, the surface irregularly subrugulose and finely punctate; pronotum with the lateral margins slightly concave, the basal margin distinctly angularly concave, finely punctured and wrinkled; tegmina thickly and somewhat coarsely punctate on the claval area.

Length incl. tegm. 15 millim.

*Hab.* South India; Coimbatore (*T. Bainbrigge Fletcher*).

3459. *Ledropsis angularis*, sp. n.

Head, pronotum, and scutellum testaceous brown, apical area of head paler, posterior margin of pronotum virescent, the extreme basal lateral apices black; body beneath and legs greyish, the tibiæ more or less mottled with testaceous; tegmina greyish white, the veins darker; vertex of head about one-third longer than space between eyes, its apex obtusely angulate, laterally oblique,

Fig. 161.—*Ledropsis angularis*.

centrally longitudinally ridged, the whole surface more or less tuberculate; pronotum with the anterior and posterior margins subtruncate, the posterior marginal area and the posterior lateral angles subprominent, the whole surface obscurely finely punctate; scutellum with its lateral margins ridged, its apex prominent; body beneath obscurely seen in unique carded specimen.

Length incl. tegm. 14 millim.

*Hab.* South India; Chikkaballapura (*T. V. Campbell*).

**LEDROPSIS OBLIGENS.** (Vol. IV, p. 180.)

Add: *Hab.* Ceylon (*J. C. Fryer*). Singapore (*H. N. Ridley*).

**LEDROPSIS SINGALENSIS.**

*Ledropsis maculata*, *Dist.* vol. iv, p. 181 (nom. præocc.).

*Ledropsis singalensis*, *Dist. A. M. N. H.* (8) x, p. 446 (1912), n. nom.

Add: *Hab.* South India; Coimbatore (*T. Bainbrigge Fletcher*).

### Genus **LEDROTYPA.**

*Ledrotypa*, *Dist. A. M. N. H.* (8) x, p. 442 (1912).

Type, *L. spatulata*, *Dist.*

*Distribution.* British India.

Vertex of head flat, the margins moderately laminately reflexed, about as long as pronotum and scutellum together, the anterior margin broadly rounded, the lateral margins slightly sinuate

before eyes, ocelli near base, nearer to eyes than to each other, eyes posteriorly elongate; face concave, moderately convex on the apical area; pronotum short, deflected from base, scarcely longer than scutellum, distinctly foveate before each lateral margin, anterior margin centrally truncate, posterior margin angularly concave before base of scutellum; scutellum broader than long, posteriorly deflected from base, the apex acute; tegmina with the veins prominent; posterior tibiæ four-cornered, curved, armed with numerous spines, the outer edge slightly expanded, and strongly spinous.

3460. *Ledrotypa spatulata*, *Dist. A. M. N. II.* (8) x. p. 442 (1912).

♀. Somewhat uniformly dull ochraceous; a short black fascia between and outside the anterior and intermediate coxæ; vertex of head very finely and obscurely punctate, its posterior margin levigate; pronotum with the disk very finely transversely striate, foveate on each side a little behind anterior margin, very obscurely

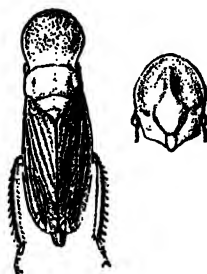


Fig. 162.—*Ledrotypa spatulata*.

centrally longitudinally impressed; scutellum with a transverse impressed line before apex; posterior tibiæ a little curved, with numerous somewhat remote fine spines on outer margin.

Length incl. tegm. 11 millim.

*Hab.* "Himalayas" (*Brit. Mus.*); Bhogaon, Purneah Distr., N. Bengal (*Paiva, Ind. and Brit. Mus.*).

3461. *Ledrotypa cultrata*, *Walk. (Ledra) List Hom.* iv, p. 1159 (1851); *Stål (Selenocephalus), Öfv. Vet.-Ak. Förh.* 1862, p. 494; *Atkins. (part.) J. A. S. B.* liv, p. 106 (1885).  
*Ledra culobata*, *Walk. List Hom.* iii, p. 827 (1851).

Closely allied to the preceding species, *L. spatulata*, from which it differs by the shape of the vertex of the head which is anteriorly much more angularly rounded, and on anterior half has two longitudinal impressions as though defining a central lobe; the abdomen above is marked with five longitudinal piceous fasciæ, one central and two on each lateral area; apices of femora

more or less annulated with black; posterior legs streaked above with piceous.

Length excl. tegm. 10; exp. tegm. 16 millim.

Hab. "E. India" (*Brit. Mus.*).

Walker originally described the species under the name of *culobata* (*supra*), which he subsequently (*supra*) corrected to *cultrata*, the first being probably a misprint.

**3462. *Ledrotypa greeni*, Dist. A. M. N. H. (8) x, p. 442 (1912).**

Body and legs brownish ochraceous; (abdomen mutilated); tegmina pale ochraceous, the veins darker and with piceous markings which consist of two long subcostal linear streaks, four similar streaks (three short and one long) on subapical area, the lowermost streak followed by one or two small rounded piceous spots; vertex of head very finely and obscurely punctate, the apex a little more angulate than in the preceding species, traversed by two central longitudinal somewhat obscure impressions; pronotum very obscurely transversely striate; tegmina with the veins subprominent; wings hyaline, with the veins ochraceous.

Length incl. tegm. 11 millim.

Hab. Ceylon (*Green*).

This description is based on a somewhat mutilated specimen sent to me by Mr. Green. It is to be readily separated from *L. spatulata* by the less concavely sinuate lateral margins of the vertex and by the piceous markings of the tegmina.

**Genus COLUMBANUS, nov.**

Type, *C. misranus*, Dist.

Distribution. Bengal.

Vertex of head as long as breadth between eyes, its apex convexly truncate, the disk before eyes distinctly subfoveately depressed; face a little raised, broadly centrally longitudinally sulcate; pronotum shorter than head, its anterior margin truncate, posterior margin very slightly concave, the lateral margins straight; scutellum shorter than pronotum, triangular; tegmina just covering the apex of the anal appendage (♀), the veins longitudinal, a few transverse veins beyond middle; all the tibiæ finely serrate, the posterior tibiæ more spinously so.

The broadly sulcate face is a strongly characteristic feature of this genus.

**3463. *Columbanus misranus*, sp. n.**

Brownish ochraceous; anterior margins of vertex and face pale ochraceous; vertex with a dark submarginal lunate fascia; pronotum finely transversely striate, two transverse callosities near

the anterior margin; other structural characters as in generic diagnosis.

Length incl. tegm. 10 millim.

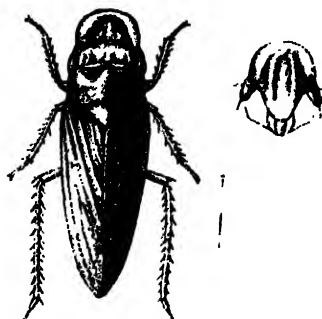


Fig. 163.—*Columbanus misraensis*.

*Hab.* Bengal; Pusa (C. S. Misra).

Mr. Misra found this interesting insect "on grass."

### Genus **DAIMACHUS**, nov.

Type, *D. exemplificatus*, Dist.

*Distribution.* South India.

Vertex of head at base twice as broad as long, anteriorly subtruncate, the lateral margins a little oblique, base subtruncate; front (including face) about as broad as long, face moderately convex, ocelli a little nearer to eyes than to each other; pronotum about twice as broad as long, anterior and lateral margins subtruncate, posterior margin very slightly concave, behind eyes the lateral margins subangulate; scutellum triangular, at base twice as broad as long; tegmina passing apex of abdomen where they are attenuated; posterior tibiae moderately widened, four-cornered, outer edge neither expanded nor foliaceous, outwardly closely finely spinose

#### 3464. *Daimachus exemplificatus*.

Vertex of head, pronotum and scutellum dull, dark ochraceous, two discal longitudinal fasciae to vertex, and two central spots to pronotum dark brown; scutellum with a pale central longitudinal fascia; tegmina pale brownish, the veins more or less spotted with fuscous; legs pale brownish; abdomen beneath concealed in unique carded type; head, pronotum and scutellum more or less coarsely darkly punctate, more distinctly and coarsely on anterior



and lateral areas of pronotum, the latter foveately impressed; face finely granulate; other structural characters as in generic diagnosis.

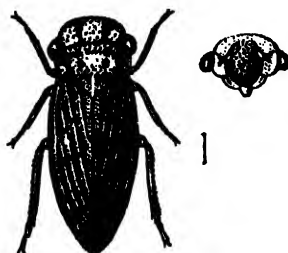


Fig. 164.—*Daimachus exemplificatus*.

Length 4 millim.

*Hab.* South India; Nandidrug (*T. V. Campbell*).

Subfamily BYTHOSCOPINÆ. (Vol. IV, p. 183.)

Genus **IDIOCERUS**. (Vol. IV, p. 184.)

3465. *Idiocerus maculatus*, *Dist. A. M. N. II.* (8) x, p. 605 (1912).

♂ Head, pronotum, and scutellum ochraceous, head and pronotum more or less suffused with dull greyish, scutellum with three large triangular black spots at base and four very small black spots on disk; body beneath and legs ochraceous; tegmina subhyaline,

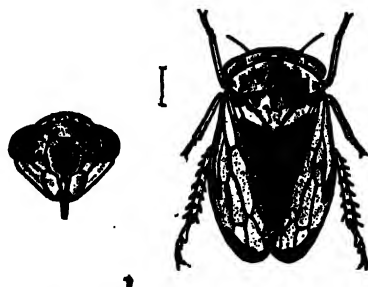


Fig. 165.—*Idiocerus maculatus*.

costal margin ochraceous, venation black, an elongate inwardly curved black spot near middle of costal margin, and the apical margin also black; a spot at base of face, another near apex of

clypeus, and apices of posterior tibiae, black; ocelli nearer to eyes than to each other; front (including face) about as long as broad; vertex of head between eyes about three times as broad as long; scutellum about as long as head and pronotum together; posterior tibiae with small brown spots and finely spinulose.

Length incl. tegm. 5 millim.

*Hab.* Brit. India; Orissa, Gopuda Island, Lake Chilka (*Ind. Mus.*).

*IDIOCERUS NIVEOSPARSUS.* (Vol. IV, p. 185.)

Add: *Hab.* South India; Chikkaballapura (*T. V. Campbell*).

*IDIOCERUS CLYPEALIS.* (Vol. IV, p. 187.)

Add: *Hab.* South India; Chikkaballapura (*T. V. Campbell*).

Genus **BYTHOSCOPIUS.** (Vol. IV, p. 190.)

*BYTHOSCOPIUS INDICUS* to replace *B. chlorophana*. (Vol. IV, p. 191.)

*Macropsis indica*, *Léth.* (vol. iv, p. 199).

*Bythoscopus chlorophana*, *Melich.* (vol. iv, p. 191); *id.* *Notes Leyden Mus.* xxxvi, p. 121 (1914).

In enumerating the *Macropsis indica*, *Léth.*, I stated that I had not seen the species, and that it probably belonged to the genus *Bythoscopus*. *Melichar* (*supra* 1914) has now united the two species, but *Léthierry's* name must take precedence.

Add: *Hab.* South India; Kodaikanal and Nilgiri Hills; Lovedale (*T. V. Campbell*).—Seychelle Islds.; Silhouette.

3466. *Bythoscopus magnus*, sp. n.

Closely allied to *B. indicus*, *Léth.*, but a larger and more elongate species; virescent, the inner tegminal margin beyond claval apex very distinctly brownish ochraceous, the face proportionally narrower and more convex, the vertex of head broader and a little narrower; scutellum apically more acutely produced.

Length  $6\frac{1}{2}$  to  $7\frac{1}{2}$  millim.

*Hab.* South India: Kodaikanal and Nilgiri Hills (*T. V. Campbell*).  
Mysore State.

Genus **RADHADES.**

*Radhades*, *Dist. A. M. N. H.* (8) x, p. 606 (1912).

Type, *R. crassus*, *Dist.*

*Distribution.* Tenasserim.

Vertex of head short and broad, as seen above about five times as broad as long, on each side obliquely directed backward to eyes;

ocelli beneath between the eyes, nearer to eyes than to each other, front (including face) short and broad, considerably broader than long, the face moderately convex; pronotum at base about twice as broad as long, moderately gibbous, anterior margin rounded, basal margin somewhat strongly sinuate before scutellum, which is a little shorter than broad, distinctly shorter than pronotum, transversely impressed before apex, which is subacute; tegmina hyaline, five apical and three subapical cells; costal membrane broad, claval vein rounded; posterior tibiae somewhat slender, finely spinulose.

A genus which may be placed near *Bythoscopus* by the short and broad front (including face); the ocelli are nearer base of face, the vertex of head is obliquely deflected to eyes, and the pronotum profoundly sinuate at base.

3467. *Radhades crassus*, *Dist. A. M. N. H.* (8) x, p. 606 (1912).

Head, pronotum, and scutellum pale fuscous brown; scutellum with a black spot at each basal angle, the lateral margins ochraceous, widened before apex; abdomen above pale fuscous brown, posterior segmental margins ochraceous, the apical segment nearly

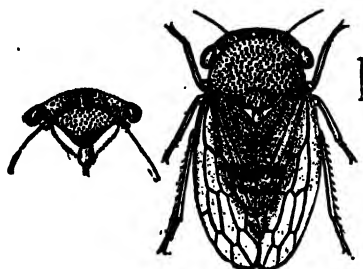


Fig. 160.—*Radhades crassus*.

wholly ochraceous; body beneath and legs pale ochraceous, tibiae black; head, face, and pronotum thickly coarsely punctate, scutellum more finely punctate; tegmina with the basal and claval areas semiopaque, ochraceous, and obscurely finely granulate; other structural characters as in generic diagnosis.

Length incl. tegm. 5 millim.

*Hab.* Tenasserim Valley; Myitta (*Doherty, Brit. Mus.*).

Genus **AGALLIA**. (Vol. IV, p. 194.)

3468. *Agallia rugosa*, *Dist. A. M. N. H.* (8) x, p. 607 (1912).

Head, pronotum, and scutellum ochraceous mottled with fuscous, the head as seen above less darkly so; scutellum with a reversed triangular black spot near each basal angle and with a smaller

dark basal spot between them; front and face paler, with a small black spot near the insertion of the antennæ; body beneath piceous or black; legs ochraceous; tegmina with the clavus brownish ochraceous, its outer margin broadly pale ochraceous, beyond the claval area the colour is blackish, with the costal

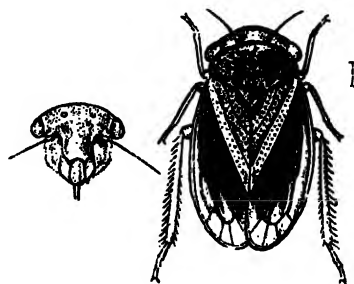


Fig. 167.—*Agallia rugosa*.

margin gradually widening to and including the apical area ochraceous; pronotum, scutellum, and claval area of tegmina finely granulate; ocelli placed about as near to each other as to eyes; scutellum about as long as pronotum: head (together with the eyes) wider than tegmina at base; face (including clypeus) nearly as long as width across eyes; pronotum anteriorly convexly rounded between the eyes.

Length  $3\frac{1}{2}$  millim.

Hab. N. Bengal (*Brit. Mus.*).

Allied to *A. plotina*, Dist. (vol. iv, p. 194), but differing in its granulate upper surface and distinct coloration.

### 3469. *Agallia campbelli*, sp. n.

Vertex of head ochraceous, narrow margins, a central longitudinal line and a rounded spot on each side, dark purplish brown; pronotum and scutellum dark purplish brown, pronotum with two central spots near anterior margin, two central angulate spots behind middle and the lateral margins ochraceous; scutellum with two oblique spots and the apex ochraceous; face ochraceous mottled with brownish, clypeus spotted with black; legs ochraceous, sometimes annulated with brownish; tegmina dark purplish brown, in some specimens, as in the one here figured, with the costal and apical cells paler, a distinct pale ochraceous oblique fascia extending from base to about middle of claval area (in some specimens this fascia is almost obsolete), claval apex paler; pronotum strongly transversely impressed near middle, scutellum also transversely impressed; posterior tibiæ strongly spinulose.

Length  $2\frac{1}{2}$  to 3 millim.

*Hab.* South India ; Chikkaballapura (*T. V. Campbell*).

This species is allied to the Ceylonese *A. biplagiata*, Melich., which I have not seen, and only know from the description."

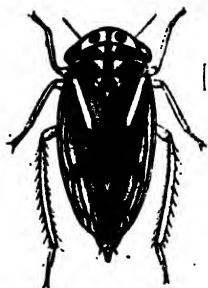


Fig. 168.—*Agallia campbelli*.

3470. *Agallia janaka*, sp. n.

Vertex of head, pronotum, and scutellum dull ochraceous; vertex with two central rounded black or fuscous spots; pronotum with some obscure lateral black spots and the punctures fuscous; scutellum with an angulate black spot at each basal angle, before each an angulate pale ochraceous fascia and the apex of the same colour; face dull ochraceous, clypeus with two small basal black spots; legs ochraceous with darker annulations;

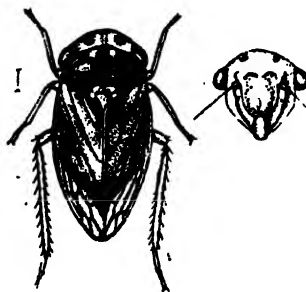


Fig. 169.—*Agallia janaka*.

tegmina dull subhyaline with the veins fuscous brown, the claval area darker, the veins at base distinctly paler and more ochraceous, a pale ochraceous spot at claval apex; pronotum somewhat faintly transversely impressed before middle, and more visibly broadly centrally longitudinally carinate; scutellum transversely impressed before middle.

Length  $3\frac{1}{2}$  millim.

*Hab.* South India ; Chikkaballapura (*T. V. Campbell*).

In some specimens, as in the one here figured, the tegmina have only the apical areas dull subhyaline with the veins fuscous brown, before this the whole area is darker and very distinctly so immediately before the pale apical area.

### Genus **NEHELA**.

*Nehela*, *Buch. White, Proc. Zool. Soc.* 1878, p. 473.

*Pachynus*, *Stål, Hem. Afr.* iv, p. 127 (1866), nom. praecoc.

*Igerna*, *Kirk. Wien. ent. Zeit.* xxii, p. 13 (1903), n. nom.

*Agallia* (part.), vol. iv, p. 194.

*Type*, *N. vulturina*, *Buch. White*, from St. Helena.

*Distribution*. St. Helena ; West and South Africa ; Seychelle Islds. ; Brit. India.

Body cylindrical, elongate ; head obtuse, short and broad ; pronotum broader than long, the lateral margins oblique : face subtriangular, apex produced, laterally before eyes broadly sinuate, ocelli between eyes, a little further removed from eyes than from each other ; scutellum broader than long ; tegmina extending beyond the abdominal apex, beyond claval area narrowed ; posterior tibiae finely spined.

I had previously followed *Melichar* in locating some species he had described in the genus *Agallia*, but since he described his *Agallia binotata* from Ceylon, he has united that species with *Pachynus bimaculicollis*, *Stål*. *Pachynus*, however, is a preoccupied name, but as *Stål*'s genus is the same as *Nephela*, which *Dr. Buch. White* subsequently described, that name is available, and the new name proposed by *Kirkaldy* becomes unnecessary.

### **NEHELA ATROVENOSA.**

*Agallia atrovenosa*, vol. iv, p. 195, fig. 128.

3471. *Nehela montana*, *Dist. (Agallia) A. M. N. H.* (8) x, p. 607 (1912).

Head and pronotum ochraceous ; vertex with two central longitudinal spots, a smaller spot between them, and a spot near inner margin of each eye black ; pronotum with a large waved fasciate spot on each lateral area, commencing on anterior but not reaching posterior margin, and a short line between them nearly reaching middle, black ; scutellum black, the lateral margins (not reaching base) ochraceous ; body beneath and legs ochraceous ; front with a central longitudinal line, two small spots on anterior margin, and a larger spot between eyes and ocelli black ; margins and apex of face, the whole of the clypeus, and irregular spots to cheeks black ; posterior margin of mesosternum, abdomen beneath

(excluding apex) black; tegmina pale ochraceous, subhyaline; ocelli placed as near to each other as to eyes; scutellum a little shorter than pronotum; head together with the eyes wider than tegmina at base; vertex of head very slightly rounded in front, almost truncate.

Length 5 millim.

*Hab.* Simla, 7000 feet (*H. M. Lefroy, Brit. Mus.*).

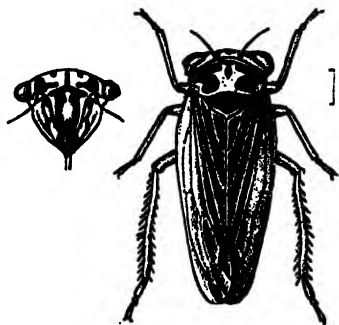


Fig. 170.—*Nehela montana*.

Allied to *N. atrovirens*, Melich., from which it differs in the more truncate vertex between the eyes and different markings and coloration.

*NEHELA BIMACULICOLLIS* to replace *Agallia quadrimaculata*.  
(Vol. IV, p. 197.)

*Bythoscopus* (*Oncopsis*) *bimaculicollis*, *Stål, Öfv. Vet.-Ak. Förh.* 1855, p. 100.

*Pachynus bimaculicollis*, *Stål, Hem. Afr.* iv, p. 127 (1866); *Melich. Wien. ent. Zeit.* xxiv, p. 297 (1905).

*Agallia quadrimaculata*, *Melich. Hom. Ceylon*, p. 151 (1903).

*Igerna bimaculicollis*, *Jacobi, Kilimandjaro-Meru Exped.* 12 (7) p. 129 (1910).

Add: *Hab.* South India; Kodaikanal and Nilgiri Hills (*T. V. Campbell*).—East and South Africa. Seychelle Islands.

I had not seen the specimen described by Melichar as *A. quadrimaculata* when I included it in this fauna.

A considerable amount of variation occurs in this species. Even in the specimens received from Mr. T. V. Campbell, which were taken in Southern India, the ground-colour of the tegmina being either pale bluish or dark ochraceous, the darker longitudinal markings are also variable.

3472. *Nehela violacea*, sp. n.

Head, pronotum, and scutellum very dark violaceous; a large spot on vertex before each eye, lateral and posterior margins of pronotum and apical area of scutellum pale ochraceous; face ochraceous, with a broad, central, longitudinal, more or less broken, dark violaceous fascia, and a few small spots of the same colour; legs pale ochraceous; tegmina dark violaceous, claval veins and claval margin pale violaceous, costal margin slightly ochraceous and subhyaline; disk of pronotum convexly rounded.

Length  $4\frac{1}{2}$  millim.

*Hab.* South India; Kodaikanal (*T. V. Campbell*).

(Genus **MOONIA**. (Vol. IV, p. 197.)

3473. *Moonia albimaculata*, sp. n.

Head, pronotum, and scutellum pale brownish ochraceous; three spots on vertex, anterior area and lateral angles of pronotum, greyishly paler, the pale anterior area with three small dark spots, and two small rounded darker spots near basal margin; scutellum more castaneous at base and with a small pale linear spot near

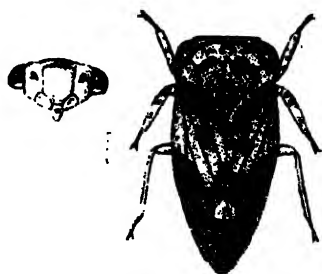


Fig. 171. - *Moonia albimaculata*

each basal angle; body beneath and legs ochraceous, legs more or less angulated with brownish; tegmina pale brownish ochraceous, nearly basal half inwardly continued to claval apex more or less greyish white; pronotum thickly punctate, centrally more or less longitudinally carinate; scutellum transversely incised near base, the apex moderately globose; the venation of the darker and posterior portion of the tegmina is prominent and in places palely spotted.

Length 5 millim.

*Hab.* South India; Chikkaballapura (*T. V. Campbell*).



3474. *Moonia capitata*, sp. n.

Very pale fuscous brown; two transverse black spots (sometimes connected) on vertex, two small black spots (sometimes larger and variable in size) on disk of pronotum, the transverse subbasal ridge to scutellum black; face very pale testaceous, a small black spot before each eye; legs ochraceous; tegmina pale fuscous brown, the inner area more or less irregularly dull greyish, and with some apical and apical-marginal spots of the same colour; pronotum, scutellum, and claval area of tegmina thickly finely punctate; vertex of head short, much shorter at middle than on lateral areas; face slightly convex, the disk sometimes, but not always, suffused with blackish.

Length  $3\frac{1}{2}$  millim.

*Hab.* South India; Chikkaballapura and Nilgiri Hills (*T. V. Campbell*).

3475. *Moonia brunnea*, sp. n.

Dark fuscous brown, sometimes more or less suffused with piceous; scutellum with a small pale spot near each basal angle; tegmina more or less distinctly sprinkled with small ochraceous spots; face ochraceous, its basal margin suffused with piceous; legs ochraceous, femora (excluding apices) and the tarsi black; vertex, pronotum, scutellum, and claval area of tegmina thickly punctate.

*Var.* Femora (excluding apices) castaneous, not black.

Length  $4\frac{1}{2}$ –5 millim.

*Hab.* South India; Kodaikanal (*T. V. Campbell*).

3476. *Moonia variabilis*, sp. n.

Head and pronotum very pale ochraceous, two transverse linear

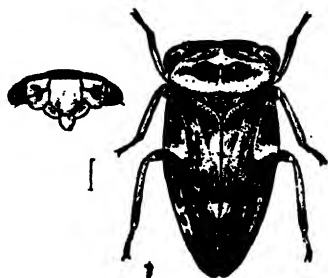


Fig. 172.—*Moonia variabilis*.

spots to vertex, and two large discal spots—followed on each side by a very small one—to pronotum, black; scutellum black with

a small spot near each basal angle and the apex pale ochraceous; body beneath black or blackish, face and legs pale ochraceous, apical annulations to femora, apices to tibiae and the tarsi black; tegmina blackish, the veins palely spotted, the greater part of claval area, and a transverse spot on lateral area before middle, pale ochraceous.

Length 3-5 millim.

*Hab.* South India; Kodaikanal and Nilgiri Hills (*T. V. Campbell*).

This species varies very much in colour markings; the two discal pronotal spots are sometimes coalesced and in other cases almost absent, the tegmina are often paler so that the dark veins appear like narrow fasciate markings, or again are darker with the pale ochraceous areas wanting.

### 3477. *Moonia diversa*, sp. n.

Vertex of head and pronotum dull ochraceous sprinkled with numerous dull brownish spots: pronotum with a transverse series of small dark spots near anterior margin and with a blackish central, discal suffusion; scutellum dull brownish with an ochraceous lateral spot on each side; face ochraceous, a transverse black

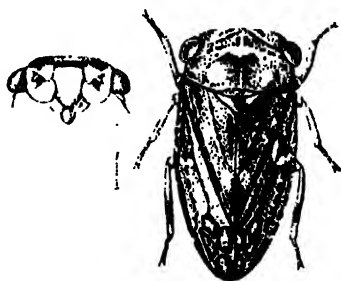


Fig. 173.—*Moonia diversa*.

fascia at anterior margin and a black spot near each eye; tegmina pale brownish interspersed with greyish spots, the veins marked with small darker granules; legs ochraceous, more or less mottled with brownish; vertex of head distinctly narrowed centrally; anterior margin of face truncate; pronotum anteriorly strongly subconvexly produced; scutellum transversely impressed near middle.

Length 4 millim.

*Hab.* South India; Kodaikanal (*T. V. Campbell*).

3478. *Moonia albivitta*, sp. n.

Vertex of head and pronotum dull brownish; pronotum with a transverse series of pale greyish spots before middle and two small black spots near base; scutellum dull ochraceous with a small black spot at each basal angle; face ochraceous, two small central black spots on anterior margin and a similar spot at margin of each eye, two central longitudinal brownish spots and a spot of the same colour near each lateral margin; tegmina greyish white, the veins dull brownish; legs pale ochraceous, more or less mottled and annulated with brown; vertex of head only slightly shortened centrally, anterior margin of face slightly convex; pronotum with the anterior margin a little convexly truncate, obscurely centrally longitudinally ridged; scutellum obscurely centrally ridged and transversely impressed near middle.

Length 5 millim.

*Hab.* South India; Kodaikanal (*T. V. Campbell*).

Genus **SITADES**.

*Sitades*, *Dist. A. M. N. H.* (8) x, p. 608 (1912).

Type, *S. fasciatus*, *Dist.*

*Distribution.* Bengal.

Vertex short, shorter at middle than on lateral areas, where it is distinctly grooved before eyes; ocelli placed on front just beneath the anterior margin of the vertex, nearer to each other than to eyes; face a little longer than broad, rounded anteriorly; pronotum somewhat convex, foveately depressed on each lateral area, anterior margin moderately rounded, posterior margin slightly sinuate; scutellum a little shorter than pronotum, broader than long, its apex acute; tegmina moderately broad, passing abdominal apex; costal margin rounded, veins coarse and prominent, apical cells five; posterior tibiæ shortly, thickly, finely spinulose.

Allied to *Moonia*, *Dist.*, but differing in the larger scutellum, narrower and more elongate face, &c.

3479. *Sitades fasciatus*, *Dist. A. M. N. H.* (8) x, p. 608 (1912).

Vertex of head and pronotum pale ochraceous, the first with a dark indentation before each eye; scutellum brownish ochraceous, with the basal margin (centrally broken) black; body beneath and legs ochraceous, apices of femora annulated, and tibiæ spotted with brownish; tegmina pale umber-brown, apical area of clavus and an oblique longitudinal fascia commencing before middle, terminating before apical area, and anteriorly transversely continued towards costal area, dull greyish, outer claval margin with piceous linear spots, between which are small pale spots, the claval vein somewhat similarly marked, the general venation also

distinctly darker and marked with small pale spots; at the posterior termination of the greyish fascia are two piceous blotches or spots; pronotum thickly finely granulose; front of head

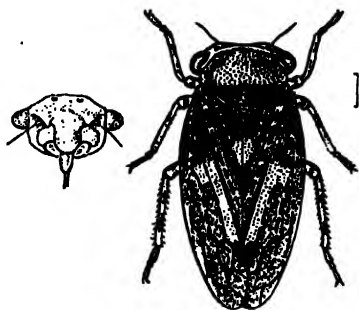


Fig. 174. —*Sitades fuscatus*.

beneath with the ocelli distinctly darker, and a small black spot near the insertion of the antennæ; other structural characters as in generic diagnosis.

Length 4 millim.

*Hab.* Bengal (*Brit. Mus.*).

### Genus **DURGADES.**

Durgades, *Dist. A. M. N. H.* (8) x, p. 608 (1912).

Type, *D. nigropictus*, Dist.

*Distribution.* North India.

Head with the vertex short and broad, centrally carinate, the eyes extending beyond the anterior angles of the pronotum, shorter at middle than on lateral areas; ocelli placed on front between eyes, nearer to eyes than to each other and nearer to base of face than to the anterior margin of the vertex; face about as long as broad, rounded anteriorly; pronotum about twice as broad as long, anterior margin rounded, posterior margin sinuate, posterior angles somewhat obliquely rounded; scutellum broader than long, shorter than pronotum, its apex angularly acute; tegmina moderately broad, extending beyond abdominal apex, costal margin convexly rounded, venation distinct, apical cells five, claval vein inwardly rounded; posterior tibiæ distinctly spinulose.

Differs from the preceding genus *Sitades* by the ocelli being placed nearer to base of face than to the anterior margin of the vertex, and nearer to eyes than to each other, and by the venation of tegmina, especially on clavus.

3480. *Durgades nigropictus*, *Dist. A. M. N. H.* (8) x, p. 609 (1912).

Vertex of head ochraceous, with two black spots about as far from each other as from eyes; pronotum and scutellum pale fuscous brown, the latter with a central longitudinal blackish spot and a much smaller basal spot on each side; body beneath and

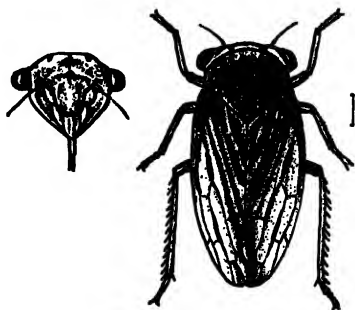


Fig. 175.—*Durgades nigropictus*.

legs pale brownish; tegmina with about interior basal half brownish, remainder dull pale ochraceous, some of the veins longitudinally streaked with black; front of head beneath with two small black marginal spots and with a black line between them; other characters as in generic diagnosis.

Length  $4\frac{1}{2}$  millim.

*Hab.* Eastern Himalayas (*Brit. Mus.*).

### Genus **PEDIOPSIS**.

*Pediopsis*, *Burm. Gen. Inv.* (1838) p. 16; *Stål, H. m. Afr.* iv, p. 128 (1866); *Melich. Cicadinen Mitt.-Europ.* p. 139 (1896); *Edw. Hem.-Hom. Brit. Isl.* p. 90 (1896).

Type, *P. tillæ*, Germ., a Palearctic species.

*Distribution.* Probably almost universally distributed.

A genus to be distinguished from any of the preceding Bythoscopinæ here enumerated by the narrow and angulated vertex of the head, situate beneath the more or less convex pronotum; face more or less triangular and obliquely truncate before the eyes; ocelli situate between the eyes; pronotum moderately convex, nearly or quite twice as broad as long, anteriorly angulate; scutellum much broader than long.

**3481. *Pediopsis orientalis*, sp. n.**

Greenish ochraceous; scutellum with a darker spot near each basal angle; tegmina appearing distinctly paler on a broad, costal, subapical area, the inner apical margin distinctly darker in hue; vertex narrow, almost in direct line with the eyes, as seen above,



Fig. 176.—*Pediopsis orientalis*.

distinctly and somewhat strongly anteriorly angulate; pronotum twice as broad as long, its posterior margin moderately concave; scutellum transversely impressed before apex, and preceding this there is in some specimens, as in the one here figured, a darker longitudinal line.

Length  $4\frac{1}{2}$  millim.

*Hab.* South India; Kodaikanal and Nilgiri Hills (*T. V. Campbell*).

**3482. *Pediopsis lovedalensis*, sp. n.**

Pale virescent, the apical areas of the tegmina more ochraceous; vertex of head moderately angulate, the pronotum a little more than twice as broad as long; scutellum with two discal longitudinal ridges; face convex, moderately globose; apices of the tarsi black.

Length 6 millim.

*Hab.* Nilgiri Hills; Lovedale (*T. V. Campbell*).

Allied to the Palearctic *P. virescens*, Fabr., from which it differs in the less anteriorly angulated vertex of the head.

**3483. *Pediopsis garuda*, sp. n.**

Vertex of head, pronotum, and scutellum olivaceous, the first sparingly, the two latter thickly, coarsely, darkly punctate, apical

area of scutellum less thickly punctate, and preceded by two small darker spots : face pale olivaceous, thickly, darkly, finely punctate, the ocelli dark, and situate between the eyes ; tegmina brownish olivaceous, the veins darker, finely spotted with greyish white ;

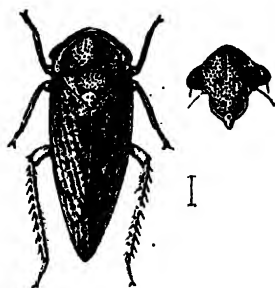


Fig. 177.—*Pediopsis garda*.

legs ochraceous, the spinules to the posterior tibiae purplish black ; scutellum transversely impressed beyond middle ; vertex of head subangulate ; pronotum twice as broad as long, its posterior margin subtruncate.

Length 4 millim.

*Hab.* Nilgiri Hills (*T. V. Campbell*).

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